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AGRICULTURE OF OTHER LANDS. No. 1. CHILI.

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General Sketch of the Country—Climate and Seasons—Tenure of Lands—Tillage and Stock-raising—the Hacienda—Laborers and Tenants, their Social Condition—Irrigation essential—Rude Implements of Agriculture—the Culture of Wheat, its Returns and Drawbacks—the Harvest—Festival of the "Trilla," or Threshing Frolic—the Bean Crop—Maize—Barley—Rye—Tobacco—Hemp—Flax—Alfalfa, or Clover—Other Products, as India Rubber, Peruvian Bark, Indigo, Cochineal, Dycwoods, etc—the Vine and its Products—Government Tithes—Chilian Gardening—Fruit Cultivation—Indigenous Fruits—Some of them successfully introduced into the United States—Raising of Horned Stock—their Value—Diseases—Enemies—Vaqueros or Herdsmen—the "Rodeo" Frolic—Branding and Castrating—Slaughtering—Drying the Beef—Chilian Horses and Horsemen—Asses—Mules—Goats—Sheep and Wool—the Llama—National Agricultural School at Santiago—Commerce of Chili with the United States.

Books are multiplied so rapidly now-a-days, and so many new avocations have come into existence since the sleepy days of our forefathers, that time is more swift in its flight than it used to be. Most of us rise before the sun and few go to bed till the day be done,—as the old rhyme hath it. Fewer of us have time to read any thing except our prayers and our party newspaper. Nevertheless, a great deal of information comes into the world, scattered here and there in books and papers, that is worthy of being read if we had

it served up in small quantities. The official reports of our exploring expeditions contribute less than they might to the needs of practical agriculture although much toward botanical and other science. Yet here a little and there a little, in public documents and private travels, we find enough when pieced together to show us how the agriculturists of other nations scratch the breast of Mother Earth.

From a considerable number of such documents I collate the following on the agriculture of Chili: This interesting

country comprises an area 170,000 square miles, with an extent of 1150 miles on the Pacific coast, from latitude $25^{\circ} 21'$ to $43^{\circ} 30'$ south of the equinoctial line. Hence, it has seasons the reverse of ours,—winter when we have summer, and summer in January. The season in which rain falls is from June to September, and the summer temperature is from 90° to 95° in the shade. The temperature varies with the altitude. The country is formed of a long and narrow slope of table-land having its declination to the westward, being graduated with a regular ascent from the ocean to the summit of the Andes, 13,000 feet of mean elevation above the roll of its waves. The breadth of the territory varies from 88 to 130 miles. The surface is much broken and diversified in its minor features. Much of it is arid, and productive of minerals, with but sufficient vegetation for the pasturage of herds. The remaining, and much the smaller portion, is of great fertility. The north is the sterile region, the south the wooded. Considerable districts seem to be almost wholly composed of pebbles embedded in sand, yet even these districts yield large returns to cultivation. Chili has but few large rivers; the principal are the Maule, Maypu, Biobio, Copiapo, Huasco, and Chicapa, all shallow and but partially navigable. The seaports are Valparaiso, Coquimbo, Talcahuana, Valdivia, and Concepcion. Santiago, the capital, is an inland city of 80,000 inhabitants. The population is of mixed native and Spanish descent; the Government liberal, and the country, generally speaking, progressive and prosperous after its fashion.

The country is parceled out in large rural estates. Until lately the law of

entail prevailed. The landowners, as a class, are rich. Most of them reside in the cities, making only occasional visits to their *haciendas* or farms, which are consequently left almost entirely in the case of the *mayor domas* or overseers.

Agricultural laborers are of two classes: *peons*, or hired men, and *inquilinos* or tenants.

The peon is the most debased of laborers. All the shelter he possesses or seeks is a hut of stakes driven into the ground, matted with reeds and thatched with brush, with a board screen, or apron of hide, closing the low doorway which gives access to the earthen floor. The rough truckle bed of the parents occupies one corner of the interior, all other members of the family, indiscriminately as to age and sex, occupy skins or straw on the floor. The cradle is an oblong board suspended by cords from the roof. Marriages are the exception rather than the rule. Legal husbands claim, and occasionally exercise, some traditional claim of life and death over their partners, hence the women avoid the relation of wife, and attach themselves to temporary husbands, changing them at will. The priests endeavor to check this heathenish practise, but as the sacrament of matrimony must be paid for, it is unpopular on that account as well as on others. Such is the general state of the peon laborers, but on some *haciendas* the proprietors have done much towards improving their condition. A very few families have even attained to the dignity of renting a few acres and owning an ox team; their children adding to the family wealth by earning three to six cents per diem in the harvest and vintage. But indolence and improvidence render the generality more

thoroughly slaves than the negroes of our South. Although they have a legal right to seek new homes and new employers, they remain groveling on one spot from generation to generation.

The whole time of the peon is disposable for the cultivation of his master's property. He receives three rations of food daily, and fifteen to eighteen cents per day, paid weekly in money. His breakfast ration consists of one pound of bread only; dinner is a pint of beans mixed with wheat and grease; for supper he receives weekly one peck of corn and wheat. Usually the food is cooked at the proprietor's house, and each peon comes at the sound of the bell, to receive a share for himself and family. Sometimes he is allowed the milk of one or two cows, and to cultivate a patch of onions, beans and potatoes around his rancho. These scanty wages supply the peon with clothing for himself and family, besides furnishing him with drinks and tobacco, with a few cents over for gambling.

The *Inquilinos* rent their farms on different tenures. They have from one to twenty acres or more, for the use of which they bind themselves to keep the fences in repair, attend to the cattle pens and water courses, assist at the harvest and threshing with their own horses, and generally be at the beck and call of the proprietor. Sometimes they own one or more ox-carts which they hire out, being permitted to make use of the young oxen belonging to the *hacienda* on condition of breaking them to the yoke. On every estate there is a store belonging to the proprietor, where groceries and cheap goods of various kinds, together with aguardiente and chicha (a fiery kind of wine) are sold at a slight advance over cost. Here

on Sundays and fete days the laborers with their women assemble to drink, dance, sing, game, and fight. In case of wounds they have no other surgeons than wise women who deal in herbs and simples. When sick, the laboring class have an extreme repugnance to go to a hospital. The men generally are spare and of medium height; the women more robust. Both sexes are equally abhorrent of work, and equally sensual and gluttonous.

Agriculture in Chili is altogether dependent on irrigation. No manures are used, and the cultivated portion of the estate is cropped incessantly. The natural slope of the country from the Andes to the sea favors the process of irrigation. Longitudinal canals along the base of the hills are supplied from the rivers. These, in their turn, are tapped to supply the various haciendas, and the water is distributed throughout the fields in innumerable water courses, which are kept clear by experienced laborers, who have no other duty than to attend them. Wheat fields are ordinarily irrigated four times between the cessation of the rains in September and the maturity of the grain at the close of November. On each occasion the fields remain submerged from one night to twenty-four hours. The only implement for breaking up the soil is almost an exact pattern of the old Roman plow. A knee-shaped log of wood, the larger end of which serves as the share and the smaller as a handle, has a second straight log inserted in it near the joint, and intended as a tongue or draft beam, the angle of which, together with the part forming the share, is variable by means of wooden wedges. The end of the share or mold-board is shod with iron, so as to form a sort of

coulter. A yoke of oxen are attached by the horns to this rude implement which opens a furrow about three inches in depth. From one and a half to two bushels of wheat are sown broadcast per acre, and covered by dragging brush, or a rude harrow over it. About the close of spring (in November) the wheat crop is liable to be infested by rust and is sometimes attacked by an insect called *capachillo*, after the grain is swollen and full of milk. It shrivels the grain, without wholly destroying it. The insect is said to resemble more the English wheat midge (*Cecidomyia tritici*) than the Hessian fly. Rain is less frequent in November in Chili than in the United States in the same month, but should rains and mists occurring on November nights be followed by scorching days scarcely a field escapes.

The mode of harvesting is peculiar and clumsy. Although some of the farms have immense breadths of grain it is all reaped with the sickle or reaping-hook, extra hands being hired. The fields are laid off into tasks, each sixty varas long by forty varas wide, and each reaper undertakes as many of these as he can accomplish. The straw is laid in piles instead of being made into bundles, and is suffered to stand so long that much of the head is lost by falling. A smart reaper will complete one task of the above dimensions per diem.

Threshing is one of the most important annual events of the hacienda. Proportionate to the area cultivated in wheat, a knoll is selected, and, being leveled on top, is enclosed with stakes and cords, and sometimes with a hedge of young trees. The enclosure is called the *era*, which we shall translate *area*. As fast as the wheat is cut it is brought

to this area and piled up into a hill. When threshing time comes the *patron* provides a daily feast and summons the *inquilinos* to perform their duty. An invitation to assist is extended to friends. Each brings as many horses as he can collect, or mares rather, for mares only are used, horses being too unruly. From 100 to 400 animals are thus collected. They are divided into squads. Behind each squad rides its driver, well mounted and armed with an enormous whip. The circular track within the fence of the area being covered with sheaves, the overseer takes his place on the summit of the pile, and gives the word to start. Away goes the whole cavalcade at full gallop around and around, amid the cracking of whips, shouting of the drivers, and hurricane of flying straw. The overseer from his roost shouts one! two! three! keeping count of the number of rounds, and when he thinks they have had enough in that direction he shouts, "*vuelta!*"—"wheel!" when they turn on their tracks, at full speed, and repeat the exercise in the opposite direction. "Under such circumstances" (says Lieut. Gilliss, who gives a lively account of the scene) "a stumble is necessarily attended by a piling up of all who follow." Their excellent horsemanship and the softness of the straw usually preserve the riders from injury. When the grain is threshed it is winnowed by tossing with shovels in the breeze.

The Bean crop is of equal importance with the wheat. This vegetable constitutes the larger proportion of the food of the laborers. It is a favorite dish at all seasons, and especially in the absence of fruit. Sixteen or seventeen varieties are grown. When the crop is harvested

the pods are threshed in the manner above described. The plants are liable to mildew at the same time and from the same causes as wheat.

Indian Corn is but little grown. It does not thrive well. The seed greatly degenerates in a few years.

Barley is a staple cultivated equally for the food of animals and man. It takes the place of oats, as winter provender, and of green pasturage, in the arid mining districts. The return is from twenty-five to forty for one.

Rye was introduced from the United States with a view of distillation, but the speculation did not pay, and the cultivation has been abandoned. The yield of grain was immense, one hundred fold.

The cultivation of tobacco, hemp and flax calls for no special remark. Alfalfa, a species of clover, is the principal pasture grass. Peruvian bark and caoutchouc, or India rubber, are among the vegetable products, and figure in the list of exports, to a trifling extent. In the south of the country timber trees flourish to 3000 feet above the sea-level.

The cultivation of the vine is of much importance, especially in Southern Chili. Good wine in large quantity might be produced cheaply for export were its preparation duly attended to. Every hacienda has a vineyard proportionate to its size, for the use of the persons on the estate. These liquors are made from the grape, namely *chacoli*, *chicha*, and *arguardiente*. Chacoli, the unfermented juice of the grape, is in taste like cider. Chicha is newly expressed juice, boiled, and sometimes mixed with the juice of apples and pears. *Arguardiente* is the spirit obtained by distilla-

tion from the skins, pulp, and seed left from the *chicha*. The soil is well suited for grape culture, and irrigation supplies the deficiencies of the climate. The vines are planted in parallel rows, six or seven feet apart, and with trenches between. Each plant is sustained by a pole four feet in height, and is annually trimmed quite close, in the latter part of August. No especial disease is prevalent. The yield is very variable, each plant affording one-third of a gallon to one and one-third gallons. Birds by day and dogs by night are the spoilers of the vintage, from the 1st to the 15th of April. A tank is built of brick and cement, twenty-five to fifty feet square, two feet above the level of the floor, and some twenty-five to thirty inches deep. Between it and the floor is a similarly constructed vat nearly on a level with the floor. This, in turn, communicates with an earthen jar sunk in the floor. An aperture between the two vats for the passage of the must from one to the other is guarded by wire gauze. The grapes are trodden in the upper tank. A coarse sieve made with strips of raw hide netted across a frame, is placed in the upper tank, and the grapes being stripped from the stems are tumbled through a window into the tank. The sieve being removed, the wine pressers appear. These are the laborers on the estate, who, denuded of all clothing, save their pantaloons, which they roll up to their thighs, arrange themselves in the tank in two parallel lines, with their arms interlocked. Then marching forwards and backwards, at first in a kind of solemn dance to the sound of a vintage chant, till at length, breaking loose, they rush wildly about with demoniac cries. When the must ceases to flow,

the skins are raked together and squeezed under a press. The wine is of delicate flavor, but from the difference in its manufacture, is not of any permanent type. The white wines which have been but recently known as an article of export, are light, with a flavor as delicate as the *alba flor* of Catalonia, or the *orvieta* of Southern Tuscany. It is asserted that the skins in which the wine is contained are drawn from the living goat. The excuse for this shocking barbarity is that the skin separates more readily from the living animal than from the dead one. The only apertures in the skin are at the neck and hoofs.

The month of April is the busy season on a Chilian farm. Squashes, beans, potatoes and other roots are then harvested. Grapes are prepared for winter use, and the bean crop is threshed out.

The Government takes the tenth part of the product of every farm in taxes.

As regards gardening:—legumes, onions, pumpkins and melons are excellent. Beets and other deep roots are but indifferent in quality. Asparagus grows wild, in abundance. Sweet potatoes do not thrive, so those brought from Peru are retailed at high prices. Strawberries are the earliest fruit. To them succeed figs, of which there are two crops, the early and late. Raspberries, currants and gooseberries are scarce. Cherries, plums, apricots, nectarines, peaches, pears, quinces, apples, pomegranates and grapes succeed each other rapidly. Oranges, lemons, and citrons are found in every garden. Of the indigenous fruits the *Lucuma* (*L. ovata*), *Maqui*, (*Aristotelia maqui*), *Coigui*, (*Dolichos funarius* of *Molina*),

Peumo, (*Peumo alba, rubro*), *Piñon*, (*Pinon araucaria*), *Chupon*, (*Bromelia sphacelata*), *Coco*, (*Juba spectabilis*), and *Avellano*, (*Corylus avellano*), are the principal. Of the *Lucuma* there are five species and several varieties; the edible kind is an oval fruit, two to three inches in diameter, with a dark green skin and dry, sweet, insipid pulp. It grows on trees which attain the height of forty to fifty feet. It begins to ripen in June. The *Maqui* is a small, dark, oval berry, of the size of a coffee bean, black-skinned and with a sweet taste. The *Coigue* is the leguminous pod of a ligneous vine, having purple flowers, with fruit unctuous and saccharine. The *Peumo* is similar to the kernel of an acorn, and covered with a rose colored pellicle. The *Chupon* is a fruit of Southern Chili; it resembles an artichoke in size, form and appearance. The *Coco* produces palms in all respects miniatures of their tropical prototype. Many trees are killed annually by making moas-ses from the sap. The fruit is about the size of a small walnut. The *Avellano* is a species of shrub—its fruit rather larger than the filbert. Its flowers are of every hue, from white to dark red. Its fruit ripens in May. The *Araucanian Pine* has a pyramidal shaped nut, one inch in length, with a flavor resembling boiled chesnuts, and contained in oval cones from six to seven inches long. The Indians use them as an excellent substitute for bread. The *Araucanian Pine*, the *Cocoa Palm*, the *Maqui*, and *Copigue*, with others, have been successfully introduced in the United States by the United States Astronomical Expedition of 1849—1852, and they will undoubtedly become naturalized in the Southern States.

Specimens of those named are now flourishing in the public conservatory at Washington, D. C., under the skillful care of Mr. Smith, superintendent.

So much for the agriculture of the Chilenos.

Immense herds of cattle belong to each hacienda, and range the adjacent mountains. Some few estates have as many as 20,000 head, worth probably \$12 per head. The cattle are subject to an epidemic called the *picada*, said to have been introduced from Buenos Ayres, which is eminently fatal. This disease is easily recognised. It almost always occurs in summer, when the stock is fattest. Within a few hours the evacuations become frequent and bloody, and the animal soon dies. If taken in time it may or may not be cured. It is infectious to the human subject, but dogs eat the carcasses with impunity.

Another recognized, and as yet incurable disease, is called "*La Araña*," (the spider). It is said to originate in the poison of a small spider eaten in the herbage. Fever ensues, the animal swells rapidly, and dies in a few hours. It is not contagious, and is most frequent in dry seasons.

The herds are watched over by a special class—the *vaqueros*—who traverse the hills daily, attending to the sick cattle and protecting the calves from the attacks of condors. Large numbers of young calves are destroyed by these enormous birds who hunt in couples, and swoop together upon their victim, one tearing out its eyes, the other seizing it by the tongue to prevent its bleating. The "*Leon*," (*felis concolor*) is also an enemy to the herds, but is more prone to attack horses than horned cattle. Leons are hunted with

a particular breed of hounds called "*Leoneros*," but which possess no good quality excepting antipathy to the Leon. They tree their prey, which is then lassoed or shot by the hunters who receive a bounty of \$4 30 for each of its paws.

Annually, during the months of August, September, and October, the herds are driven from the hills into "*corrals*," or pens. Those intended as draught oxen; as milch cows for dairy or family use; those to be fattened for slaughter, or for the market, are separated from the rest, and the yearlings are branded. Moreover, as they are kept together several days, the tendency to procreation is materially increased. This bringing of them together is called the *rodeo*, and like the *trilla* is a rural festival. It is, indeed, a hunt on a large scale, and is productive of immense excitement. Corrals, varying in extent from one to four acres each, are formed by upright poles some seven feet high, set close together and fixed firmly in the ground. Each has two entrances. Yearlings to be marked and others intended for oxen, are led to a corral apart, where both the required operations are performed. The animal being thrown to the ground by a lasso, the operator stands ready with a branding-iron and keen blade, and in a few instants the young ox is permitted to bound away, smarting under his double wounds.

The slaughtering of fat cattle takes place in December, January, and February, there being then no rains, as the dry air greatly hastens the preparation of *chargui*, or dried beef. An open corral is used as shambles. The animal is lassoed, his four feet are tied, and he is killed by the knife. When the blood

ceases to flow the carcass is at once taken in hand by one man and a boy, who cut the flesh from the bones and slice it into strips half an inch thick by a yard in length. The strips of flesh are stretched on cane wickers, where boys tread on it with their bare feet for an hour, to hasten its drying and make it tender. A little coarse salt is then sprinkled on the strips, and they are left in the open air till thoroughly dry. Four days of summer will dry it. It is then packed into bundles of 100 and 200 lbs. each, enclosed in a network of hide. Three reals are paid for the dissection of each carcass. A man and boy will dissect one carcass, or rather more, per day, thereby gaining from three to five reals, with perquisites of the offals. The tallow is melted and cooled into large blocks. Cattle slaughtering is very profitable—supposing the cattle to be bought at \$16 to \$20 each, the preparation for market costs \$4 to \$6; the returns are \$30 to \$35.

Something must here be said of Chilean horsemen, who are as skillful riders as any in the world. Like the Cossacks, they will pick up a cap from the ground while they are in full gallop, and can ride suspended along the horse's flank, with the support of one foot and arm. It is said to be a not uncommon feat to allow the horse at full speed to be thrown down by a rope stretched across the path, while the rider vaults from the saddle at the instant of fall, and alights on his feet with the bridle in his hand. English saddles are now common, but until recently piles of skin served instead. Bridles formed of thin threads of hide plaited together; wooden stirrups, eight or nine inches wide; spurs weighing two

to three pounds, with blunt rowels of four inches from point to point, complete the horse furniture; not forgetting a lasso coiled at the saddle bow, as also a slouched hat, leggings, and a poncho blanket with a hole in the middle. The horses are exceedingly enduring. Animals of moderate quality may be bought for \$17 25 up to \$175, \$260, or even \$500 for extraordinarily good ones broken to harness. A horse can be kept for six to ten cents per day. Horses only are kept for riding; mares for brood, and farm work.

Asses are kept for the raising of mules. Goats are numerous; as are sheep, but the wool is of an inferior quality. In some parts of the country a good sheep may be purchased for seventy-five cents.

The Llama, (*Auchenia Llama*; *Llama Guanaco*), is also known in Chili.

Tschudi says there are several distinct specimens in what has been hitherto considered but as one. The Guanacos of Chili have been usually considered to be the Llama of Peru, in a wild state. They extend from the wooded islands of Tierra del Fuego to the Cordilleras of Peru. Going in herds, sometimes containing hundreds, they are shy and wary, though sometimes their curiosity gets the better of their caution, and they will frequently approach the hunter if he lies on the ground and waves a handkerchief, or otherwise attracts their attention by some movement unusual to their eye.

Lieut. Gillis says, (1852), the Guanaco may be found on the entire Andean chain in Chili, and is certainly the most abundant of the larger quadrupeds. It attains ma-

turity in rather less than one year, but continues slowly increasing in size during several years. They feed just below the snow line. The young are frequently captured and are offered for sale in the streets of Santiago, during the months of November and December, at which time they are from two to three months old. The young are very gentle; they will follow about the house within a day or two. They drink milk voraciously. Their bleat is not unlike that of the young goat. As they grow older they become less docile, are easily displeased, and either strike the offender with their hoofs, or eject at him an acrid saliva from a distance of several feet. At this time they are fond of barley and other small grains, bread and green food, preferring, however, *ulfalfa*, clover, or young barley straw. They are more violent at the rutting season. In a state of nature one male presides over a herd of females, sometimes twenty in number. Large numbers are captured with the lasso and *bolas*. Their skins are worth about fifty cents a piece. The meat was never offered for sale at Santiago.

Lieut. Phelps expresses his surprise, from personal observation, how such numbers can thrive where there is so little vegetation. He has seen them feeding upon the moss creeping out from beds of frozen snow. Their sense of sight is marvellously quick, and they take alarm at sight of danger one, two, or even three miles off. They bleat an alarm and flee along ledges almost inaccessible. Lieut. Phelps visited the mountains during several months of

the year, but cannot determine what is their season of bearing young, for he found them at all times. He tasted their flesh and found it eatable, although not particularly palatable.

The Chilean Government exhibits a commendable desire to develop the agricultural resources of the country. With this view the *Quinta Normal*, or model agricultural school near Santiago, was organized in 1850. About 125 acres are enclosed, with the necessary buildings, for practical instruction. The pupils are limited to thirty in number, twelve of whom are educated at the expense of government. The other eighteen are required to pay \$100 per annum for maintenance and for the clothes worn while at labor. Pupils must enter between the ages of fifteen and twenty. The course of instruction covers four years, and embraces Grammar, Geography, Arithmetic, Practical Geometry, Drawing, Agronomy, Practical Agriculture, and Rural Economy,—the last three branches comprising every subject that can be of use to an agriculturist in the widest sense. All the pupils are resident. A nursery has been established for the raising of plants to be disposed of at equitable prices. With the soil and climate of Central Chili this (says Lieut. Gilliss) may become one of the garden-spots of the world.

The following table, compiled from the official returns of Trade and Navigation for the past year, shows at once the surplus products of Chilean agriculture in its various branches, and the amount of our commerce with the Republic for products of the

field. The amounts may be slightly altered by the returns for the second half of 1857, now in preparation to be laid before Congress :

IMPORTS FROM CHILI INTO THE UNITED STATES IN THE YEAR 1857 TO JUNE 30.

Animals, live	no.	85
Almonds,	lbs.	24,453
Arrowroot	"	50
Bark, Peruvian	"	19,037
Barks, other	"	512,561
Cochineal,	"	1,273
Coffee,	"	5,000
Cocoa,	"	250,865
Cheese,	"	2,000
Dyewoods, valued at		\$33,377
Furs	no.	388
Garden seeds, trees, shrubs, plants, etc., valued at		\$912
Guano,	tons	801
Hides and skins, valued at		\$73,866
India rubber materials,		266
Indigo,	lbs.	2,395
Matting, straw hats and plaits, valued at		\$34,635
Nuts,	lbs.	271,935
Olive oil,	doz.	200
Raisins	lbs.	331,200
Red Pepper	"	1,200
Tobacco,	"	10,500
Wine, red,	gals.	35
Wine, claret	doz.	1,050
Wool,	lbs.	3,544,394

NOTES SUGGESTED BY THE FOREGOING.

Mr. Hunter has our thanks for the very graphic description of what we suppose to be the existent state of the rural population, and of the outdoor arts in Chili. Should any say, this has little to do with our agriculture, our reply is, that it is well for us to know something about our neighbors.

It has long been said to be wise to learn from an enemy. It is wise to learn from our inferiors. The Chilians are undoubtedly inferior to us in agricultural skill ; and yet in

some particulars they are our superiors. They have far too many holidays ; we have rather too few. Our error, if it be one, is at a less remove from the *just medium* than theirs, and leans to a safer side, and so in this particular we have the advantage of them. A due mixture of Chilian love for fun and frolic with the stern severity witnessed in some sections of our own country, would be an improvement. Many among us would be as much benefited by a little more of the social as the Chilian laborers would by a little less.

Their *aguardiente*, *chacoli* and *chicha* are less harmful beverages than our New England rum and its rotten co-equals. People who use the former will be apt to take life more joyously, and not end it as soon.

In our climate there is not the same necessity for irrigation as with them ; and yet, whenever the nature of the ground admits of a stream of water, especially if it be impure water, flowing through a city or village, or from a peat swamp, being turned, at discretion, not constantly, over grass land, great benefit may be gained. The quantity of grass may be greatly increased, without the quality being much if at all deteriorated.

Beans, as food, are unquestionably favorable to the development of muscle. Plumpness of form and strength are a consequence. Horses dislike them at first, but become exceedingly fond of them, and we doubt whether there is any better food for team horses than beans, with their pods and tops finely cut. The best working livery horses that we have ever seen, had been fed for

years almost entirely upon them. As an article for the table, we believe they are less used among us than formerly. Whether the repudiation is favorable to health, strength and longevity, we very much doubt. It is possible that the Chilians are wiser than we are in this particular.

The plow described by Mr. Hunter is about the same as that described by Virgil two thousand years ago, and recommended by him as a most excellent implement. In his *Georgics* he lays down rules by which the husbandman can make it. The point was to be burnt into shape and thus hardened for use. The Chilians have advanced a step in arming the point with iron. We shall hardly be apt to take lessons on the plow from the Chilians; and yet we do not believe that we, with all our improvements, have yet attained the best possible mode of pulverizing the soil. The plow more generally used in the north of Spain is in the form of a huge rake, with four iron teeth, about two feet long, set at an angle of about forty-five degrees, so as to run to a great depth, but not to reverse the soil. That such an instrument performs a better operation upon the soil than anything adopted among

us, we have not the least doubt. It does the work of the plow, the subsoil plow, harrow and cultivator, lifting the soil, pulverizing, mixing it, but not reversing it. We might not like the idea of driving a pair of cows, or a cow and a bull, a cow and an ass, or any other pair that could conveniently be raised, or work over a single acre with *that thing* tied by a thong to a straight yoke, and the yoke tied with strings to the cows' horns or the asses' nose, as the case might be; but we should like their crops, from fifty to seventy-five bushels of wheat to the acre; and it is possible that we may yet contrive a more business-like way of producing a similar effect upon the soil, giving it a like preparation and obtaining like crops.

On the whole, we think it well to look at the agriculture of other nations. If they have faults we may avoid them. If practices prevail, superior in any respects to our own, we may, in many cases, incorporate them with ours. It tends to enlarge our views of the great world, of which we, though growing somewhat, are only a part. If Mr. Hunter will allow us to hear from him again we shall be glad, as we believe our readers will.

THE EXCELLENT ART OF DISEASING FOOD.

We believe in good, substantial food, for man and beast, taken or given with great regularity, as regards the time, and in such quantity, as after *thorough mastication* to satisfy the demands of appetite. That Americans in many cases rely too

much upon meats, and are not sufficiently attentive to the lighter articles, as the farinaceous, the vegetables and fruits, is perhaps true. But as a people we are certainly mending in this respect. Good cooking, an enlarged variety of vegetable dishes,

and a taste for choice fruits are gaining ground, we believe, among us.

As regards the fatness of meats, there is a just medium. Animals that are kept in a perfectly healthy, growing condition, enjoying the open air and plenty of exercise till near the time for their slaughter, and then fattened no very long time, nor to the highest possible degree, are unquestionably the most suitable as food. The growing of muscle, (lean meat), is quite as important an art as the laying on of fat. If we can learn how to produce a ton of pork, mutton or beef not excessively fat, as cheaply as we can lay on fat after the animal is grown, a great object will be gained; for in order to keep ourselves in the most healthful condition and least liable to attacks of disease, it is necessary that our food be in a healthy condition.

We have lately heard that in a neighboring state the hogs, in a certain establishment, have fallen sick, and at the moment when they would have died of disease, have died very suddenly of the butcher's knife, and been sent on the benevolent mission of feeding the good people of New York. That in England most animals that die of disease are passed into London and sold from the shambles, many believe. Whether the same thing is done in this country with regard to New York is another question. We hope not, for we love a bit of meat once or twice a day, though we would a great deal sooner dispense with it than with vegetables and fruits, if we could not have all; and we have an idea, that although the consumption of diseased meat

will not necessarily produce the disease of which the animal died, it can hardly be conducive to health, and certainly if there be a knowledge, or a suspicion even of the fact, it would not conduce to the pleasure of eating.

But, to return to the subject of over-fattened meats, as one of more general interest, we permit the Messrs. Fowler & Wells to speak through our columns. We do not suppose that stall fattened animals are necessarily and always unhealthy. If not fattened an unreasonably long time, and to an improper degree, the heart, the liver, the lungs, all the vital organs are found in a perfectly healthy state after the slaughter, as we have witnessed in hundreds of cases. Excessive fattening, rather than the manner, is to be deprecated. Two inches of solid fat over the ribs of a sheep, or three inches over those of an ox, is better food for an Esquimaux than for a civilized being in a temperate latitude, and perhaps better to grease boots with than for either. Our friends of the *Life Illustrated* are in the main just about right in the following, which we take from a recent number of that work:

To parents, whose sons and daughters are to be reared, and that, it should be hoped, to the vigor and to the delights of health; to the responsible gentlemen on Committees of State, County, and Town Fairs, who decree the honors due to elephantine steers and porkers, and who, by fixing for the people just what shall be esteemed a "prize animal," give cast in turn to the public faith, opinions, and enterprise in these matters—to those who raise and fatten for the market our domestic animals and poultry—but most especially to

all who use flesh as part of their daily sustenance, "these few lines" are respectfully but most earnestly inscribed.

It is not the intention of these thoughts to "poke" any description whatever of fun at those who consume animal food, nor to let fly any volley of unanswerable arguments about their devoted heads. We are going to speak simply of the philosophy of what is—which is sometimes deeper even than the philosophy of what *ought to be*. The great fact with which we meet is, that in enlightened lands—the best of the kind that we have as yet—fully *nine-tenths* of all the people, young and old, are consumers of animal food. And this seems even to be, in some aspects, a beneficent and labor-saving arrangement, since it makes available and productive the vast and otherwise useless stores of the sea—the fish and shell-fish on which at least one-third of our race largely depend for subsistence. But with the products of the sea, and with the game caught by hunters and trappers, we have little to do here, unless it be to point to these kinds of food as being in a state of nature, and thus recommended to us as wholesome in contrast with the more doubtful specimens with which we shall have presently to deal.

We allude to the domestic animals and poultry which are usually farther than ever removed from a state of nature while under the fattening process, though by it they are expressly to be prepared for our stomachs and our blood, and to be made promotive of muscle, health, efficiency, and longevity.

With the idea of an animal's being healthily fat during life, or when slaughtered for the table, we have no flaws to pick. We have never labored to teach the American people the beauty of *gauntness*, nor its superiority, either for health or comeliness, to a wholesome degree of fullness of feature and rotundity of limb

—a work of supererogation, indeed, if we had!—and therefore we are not bound to assume that, if flesh is eaten at all, the poorer the animal and the leaner the part eaten, the better. Flesh eaters *do* consume too much fat, and often that of a very unhealthy character, owing to the way in which it is forced and crowded upon the animal; so much is certain. They do generally also consume too much animal food of all kinds. Instead of its appearance on the table three times a day, the actual wants and well-being of the system are, with most, better served by its use but twice daily, and with some, as those of the so-called nervous temperament, or of sedentary turn of life, once daily is better. And this, not necessarily because meat or fat are *per se*, unwholesome, but because they form a species of heavy or "hearty food," and are apt to leave less room and inclination for *fruits* and lighter dishes, that should for one or two meals daily be esteemed sufficient.

In itself, fat cannot be spared from our food. It is found, in greater or less quantity, in every organ and part of the human body, and that in its states of genuine health. It is always found in our blood. Its absence from either tissues or blood would be fatal; in fact, even in the most lingering disease or absolute starvation, where the body gives up all it can to keep the vital flame flickering, death always comes before the store of fat is near exhausted, although it is thus often reduced to less than a third of that found in a state of ordinary or good health. Wheat-grains contain fat or oil, and therefore so does bread; of maize, about *nine* per cent is oil; of oat-meal, *six* per cent.; and the latter per centage is also found in wheat-bran. Some fruits, as the plum, and many nuts, as the walnut, filbert, etc., have a very large share of oil—from thirty to sixty per cent. Fat or oil, then—for the two are es-

entially the same, and the difference between beef-suet and corn or walnut oil is far more in appearance and in *name* than in their real nature—cannot be excluded from our food if we should strive to exclude it; and since it is indispensable to healthy nutrition, perfect growth, and vigorous activity, it is fortunate that we should fail in the attempt. The animal, moreover, that is in good health and “heart,” and not overworked, is always pretty well supplied with fat, or at least it is so in the months intervening about June and February. Hence we may take a condition of *moderate fatness*, not put on by force, *i. e.*, by overfeeding, as being an indication of good health in the animal, and of the wholesomeness of its flesh for food.

It must be admitted that the healthfulest animal food still contains slight amounts of broken-down or waste substance. But we, as well as the animal from which the flesh was taken, have excreting or purifying organs; and if from our stomachs the waste particles get into our blood at all, the abundant excreting glands of a vigorous system will promptly expel them again, as they do the waste particles arising from the consumer's own broken-down tissue.

The real issue, then, is this: the human organs *will be built up of such* organizable materials as are present in our food. The blood will be made up of both the organizable and the unorganizable, provided they be such as can be digested and absorbed into our circulation. If the food we take, whether animal or vegetable, be unhealthy in itself, or injured by false modes of preserving, or through neglect, our tissues and blood must become made up of this deteriorated, poor, or morbid material; and the loss of the consumer's strength, health, or even life, must be the result. Our food should be not only palatable, but intrinsically *healthy and vigorously organized* in it-

self. Of course, then, it must be well and rationally preserved and rationally cooked; but that we leave aside for the present. The grand fact is, that we who eat it cannot be genuinely healthy, unless our food be in *prime health* when plucked or when killed, so that it may be so when brought upon the table.

Among the conditions of life and health, food is the grand deceiver. If we are brought into an offensive atmosphere, we sooner or later get tangible evidence of the fact, and are warned to “clear out” and do our breathing on better material. If we too long neglect exercise, a bilious headache or a feeling of lassitude or of aching for movement soon intimates to us the necessity of bestirring ourselves; and after a long walk or downright exertion we feel better. A person who has for a while enjoyed the luxury of cleanliness, and the sense of cuticular freedom consequent on stated bathing, will soon find by his sensations when he is “dirty,” and will wash himself at least for the subsequent pleasure of it. But when we take diseased and unwholesome food, the mischief of the matter is, that so far as it *can* get itself assimilated, that food straightway becomes part of ourselves; our muscles are made up of less vigorous stuff; our nerves, and even our brains, of less pure and life-giving material. So our feelings and judgment are too apt to become blunted and deteriorated at equal pace with the increasing morbidness of our blood and fibres. We cannot judge aright of our own condition. We declare ourselves in excellent health—“never felt better in our lives”—when, perhaps, the very next week will bring on a rheumatism or dysentery, or prostrations with bilious fevers or typhus fever! Of course, then, we cannot at once determine what food is agreeing or disagreeing with us. Something we know by present signs, as the furred tongue, etc.; but the

deepest mischief may wholly escape us. And this is the reason why we can use *diseased food* so long without becoming aware of its real character and tendencies ; and why it is so hard to convince those who stick to "facts," and who disdain all reasoning unless where the effect follows the cause as clearly and unmistakably as a bloody nose follows a course of fisticuffs, that such diseased food must produce evil effects, however they may escape notice at the time.

Now it will be evident to any reflecting and sensible person that pen-fattened and stall-fattened animals can not be healthy. The operation cannot help producing disease on them to an extent greater or less. By being shut up the whole, or even a large part of their time, they are forbid that exercise, fresh air, and freedom, and wholesomeness of condition generally, without which health is impossible. Their blood is not kept pure, because exercise and excretion do not properly carry off the impurities. Their tissue (flesh) is not pure and vigorous, because a pure, natural flesh can only be laid on as the result of exercise and from a clean blood. All this would be so if we merely shut them up and fed them their ordinary allowance. But consider for a moment that the very object of shutting them up is that we may cause them to lay on flesh or fat at a much faster rate than they can do in the open field ; and for this purpose also there is fed to them twice or thrice the amount of food which, if they were running at large, we should deem necessary for them. Now, the excretions of their bodies are entirely inadequate to the work of due separation and purification ; the excess of food is but imperfectly digested ; that which gets into the blood is poorly assimilated ; the muscles, or lean portions of the animal usually suffer less, because they require a well-assimilated blood and exercise, while the grand tendencies

of the course pursued are to produce fat, to crowd all the organs and stowage room of the body with this superfluous fat ; and along with this state, by necessity, to bring on scrofula, skin diseases, diseased glands, enlargement and fatty degeneration of the heart, tuberculated liver and lungs, and when carried to the highest point, asthma, with severe suffering, suffocation, and death.

This is the legitimate tendency of the present system of fattening animals. And where the system is carried out the most fully, the evil results named are most plainly seen. Mr. Mechi, in England, the pattern farmer of that enlightened country, shuts up his hogs in dark pens, and on an elevated floor of slats, with crevices between, placing as many animals as possible in a pen, so that by shutting out *light*, and throwing every obstacle in the way of *motion*, he may cause the animals to excrete as little as possible, and to lay on as much flesh or fat as possible from the food with which they are then crammed. Monstrous ingenuity ! Monstrous perversion of common sense ! No doubt the buyers of Mechi's pork smack their lips over the savory images of grease from animals already well nigh dead with scrofula and suffocation, when the knife of the butcher brought its kind release. Now we say that such food is simply rotten with disease. "Very firm, good pork," replies the doubter. Very well, sir ; if you have no eyes to see *invisible rottenness*, which is yet *just as real and vital rottenness* as if you did see it, you must return to your dish and its delights ! But did you ever notice that vile red eruption covering the skins of many hogs, as they go into the market or the barrel ? That sir, is a skin disease. Where it is found, there are abundance of living worms in the skin and flesh of the animal. But more than that, no human being or quadruped ever had a skin disease, except because his or its whole body

and blood were first diseased; and the outward manifestation only shows the inward corruption.

Again, have you ever observed in the flesh and about the entrails of certain specimens of beeves, sheep, hogs, and poultry, on killing and cutting up, numerous dark, suspicious-looking lumps or masses, which the butcher soothingly tells you are "nothing but *kernals*—very often found, in fact?" These innocent *kernels* are scrofaious, enlarged glands; and they show the quality of the blood and flesh of the animal to be deteriorated and unfit for food. The favorite "harslet" is most apt to show the signs of disease; the heart, liver, and lungs (lights) being the organs most likely to suffer. As the mucous surfaces must usually be affected, the tripe does not escape the taint; while the nice "chine" may be the seat of spinal disease, in its various stages of inflammation, tubercle or abscess.

Of the more marked indications of disease, such as abscesses in the joints, and elsewhere, it may be most agreeable to say as little as possible. But we refer the inhabitants of large cities, in which distillery swill is fed to animals, to the reports of "swill-milk committees" for interesting reading in this direction.

But do these revolting facts show animal food unfit for human use? Not necessarily. As a rule, animals of all kinds are far healthier than we. Their conditions are more

nearly those of nature, if we will but let them alone; and that is the reason why they are more healthy. Taken at large, the fish and wild game are grown in conditions as perfect as those of the grains of our fields—more natural than those of our garden vegetables; for we are too apt to go beyond mere natural feeding of the latter by manures, and actually force their growth. Domestic animals and poultry, running in the open fields, sensibly fed, not ruined by work, nor extremely old, are necessarily in an average condition of fine health and development. It is where men step in with their cunning schemes for rapid money-making, and turn the bodies of their animals into machines for getting the greatest possible market value out of a given quantity of grain, pumpkins, roots, slops, etc., it is just here that the evil steps in; and from this point onward, all the study, pains, thought, contrivance, are expended upon the work of bringing our healthy beasts into that more and more morbid condition, which is what we call high fattening. As *ignorance* too often begins this work, *self-interest* thus far, and in our present system, energetically carries it out; and the result is that *our farmers and stock-raisers carefully and studiously prepare DISEASED FOOD for their own tables and sustenance, and for the sustenance of those whose misfortune it is that they have to look to the farmers and stock-raisers for what they eat.*

SUGGESTIONS FOR THE SEASONS.

THE circle of our readers is so widely extended, that while we write, some are enjoying the genial influences of spring, others are yet in the depth of winter. While some are putting in the seed, others are only preparing, and others still but contemplating the labor

of spring as yet far off. We naturally write with reference to our own latitude. Our readers, whether North and South, will know how to make the proper allowance; and all may now or soon reduce to practice any hints thrown out by us, which may be deemed of value.

MANURE.

This is an important item of the farmer's capital. It not only produces crops, but by the expenditure of crops on the farm, it reproduces itself. If two-thirds of what is grown on a farm, including both the food for animals and for the family is expended on it, it is impossible for that farm to be worn out, or to become less productive, except by positively bad management. On the other hand, it will inevitably become better, if the management be good. Such is the order of Divine Providence. It would be poor praise of the Divine Government, to suppose this world to be made such, that the longer it is inhabited the less fruitful it will become, or that it will not increase its productions in proportion as labor is wisely bestowed, so as to meet the wants of a growing population. But in order to a perpetual improvement of the soil, most of what is grown from it must be returned, or, if it is not, an equivalent must be brought from other sources. Good management implies first of all the preservation and use of all the fertilizers, which the farm itself can be made to furnish, and then the purchase of as much more as will pay.

The question with the farmer should not be, with how little manure he can get a decent crop, but how much he can use and yet get his money back the first year. To illustrate our meaning;—suppose A. expends \$15 in manuring an acre for corn, and B. expends \$30 in manuring a similar acre; and suppose A. gets \$40 worth of corn, and B. gets \$56 worth. At the first thought, you would say, that, as B. expended \$15 more than A. and only got \$16 more for his crop, he has done no better than A., because it just takes the \$15 to pay

him the \$15 with one year's interest. But on a second thought you will see it is not so. By the extra \$15 expended by B., his land is made better for the next year and perhaps for several years. Five dollars would be a low estimate for the increased value of B's land by reason of the \$15 extra expenditure for manure; and just so much he has gained over A. Bear in mind then, as you lay your plans for the coming year, that for every dollar's worth of manure less than you can possibly get back within the year, by the increased crop, you are a loser by just so much as your land will be of less value for after cultivation; and that every farmer knows is an important consideration. He should inquire what is to be the effect of this year's work on his land as well as in his purse. One man will cultivate a farm so as to get paid for his labor and other costs of cultivation and leave the land just as valuable for after use as it was before. He gets nothing as profit. Another will cultivate a similar farm so as to get pay for his labor and costs and leave his land worth a hundred dollars more for after use. That hundred dollars, although not yet pocketed, may be set down as profit. This goes far towards showing, why some farmers are stationary while others are progressive. We go for economy in farming. But the true economy is to make and purchase and apply all the manure that you can possibly make the increase of the first crop pay for. You may better go a little beyond that point than fall short of it, because if you should use a little more than would give the best return the first year, you may expect to recover the loss in after crops; whereas, if you lose by applying less than would pay, the

loss is irrecoverable ; as for instance, if you apply \$10 worth and get a crop worth \$30, where \$15 worth would have given you a crop worth \$40, you lose five dollars the first year by not applying more ; and the meagerness of your land after a scant manuring affords no hope of recovering it in after years.

We say, then, look well to the manure. If there is a stream of water running from your yard or pens, stop it as quick as you would stop a thief, running away with your corn or wheat on his back. It is carrying off the potash, soda and ammonia, the soluble and most valuable portions. Manure should be kept in a moist state. If there is a redundancy of water, no great harm is done, provided the excess settles into the ground, for then the top soil of the yard will retain the salts of the manure, and you will get them in process of time, as your yard wears down, but if the water runs with them into the street or down a lane, they are gone for good. After carefully preserving all the fertilizing matters of the farm and applying them in their most effective condition, cast about and see whether you can buy more on such terms as will pay, or nearly pay, the cost in the increase of the first crop, remembering that if you get the cost back the first year, you gain by the increased value of the land for after years. We dwell on this subject, because we believe that many farmers have never taken the right view of it. They think, that if they pay a dollar for manure and only get an extra dollar's worth of corn or other crop by it, they work for nothing. But we trust we have shown that it is not so. If farmers were as willing to work for an increased value of their land, as for present pay, they would do

better in the long run. High farming pays best, and it will be more and more so for years to come.

But manure, in connection with deep, thorough cultivation, is at the foundation of high farming. For the whole past year we have been urging the collection of muck, turf, leaf-mold, anything you can get of the kind, to increase the quantity of the home manure. After making the most of these home fertilizers, see where you can purchase to the best advantage, taking into account the cost of transportation as well as the price. Then estimate the average prices of produce for the last ten years. Call to mind what has been your success in the way of increasing the crop by manuring. Take notice of what the better sort of farmers in your neighborhood have done. Read all you can on the subject. Talk about it with the best farmers you know. Then make up your mind, whether the purchase of more fertilizers than you have been able to make, will pay, or nearly pay, in the first crop, and if so, do not be afraid to invest. Say not, how little can I get along with, but how much can I use. "There is that withholdeth more than is meet and it tendeth to poverty." In nothing is this more clearly verified than in a skinning process of farming.

CARE OF STOCK.

This is a subject ever before the farmer, and always important. We have said so much upon it, that if we say more it may be but a repetition. But it always grieves us to see farmers, after a hard summer's work, wasting 25 per cent. of the result by improper feeding. We say, therefore, perhaps for the seventh time, make your stalls warm, give the cattle exercise, but do not let them be out too long, and do not leave

them to shiver in a cold wind. A bear will get enormously fat in summer, and will live upon its own fat all winter, but will come out lean in spring, even with a warm den to sleep in. The farmer's object is not gained by letting his cattle live through winter on their previous summer's growth. Moderate feeding, regular as to times, will produce a valuable growth all winter, if they are kept comfortably warm. Every animal on the farm, the swine included, should have a warm place to sleep, and a cooler one at choice, for sufficient exercise to keep them in high health. If the sheds, yard, stalls and pens are properly arranged, they can be housed; and there is no animal that, with economical feeding, will not pay for the comfort you give. Comfort always pays—misery never. If inflected, it must be a gratuitous inflection. See that brood animals, cows, sheep, swine and all the rest, are provided with suitable quarters, separate from the other stock beforehand. Do not milk cows till too near calving; nothing is gained by it. By taking the last drop of milk that can by possibility be obtained, you deprive the foetus of its appropriate food. The diminished value of the calf, and the diminished flow of milk for the next season are more than a set-off for all that is gained by milking too long. Blanket horses whenever left exposed, Cruelty to domestic animals is a grievous sin. Never practice it in any form. It is generally punished in this world, and most assuredly will be in the next. The same Being, whom we call our Father, and who certainly cares for us, cares also for those lower order of animals he has entrusted to our care. How beautiful the thought that we can always derive the most benefit from these

without abusing them. The horse, the ox, anything that toils for us, will do us the most valuable service, in the long run, if we do not work them unreasonably hard at any one time. Every animal on the farm will give us the most of its appropriate products if we supply all its wants. Interest and duty are coincident. Kindly cared for and well used, they *pay*; neglected and abused, they make us cost without giving a return.

FRUIT TREES.

A majority of the old fruit trees throughout the country fail to give the amount of fine, large, well formed and luscious fruit they would, for the want of sufficient fruit forming materials in the soil. The tree, in its fifteen, twenty, or perhaps thirty years' growth, has exhausted the lime, or some other ingredient, and now there is none for the fruit. For apple-trees lime is specially important. The phosphate of lime, as in bones, is good for all fruits. If the soil is plentifully supplied with all the ingredients of a fruit, it will be fairer, richer flavored, and less exposed to the attacks of insects. Most orchards are in turf, and it is perhaps best that they should be. But how can the tree be expected to elaborate food from the soil equal to the maturing of a large yield of fruits, if the ground is mowed once or twice a year, fed off in fall and spring, and seldom manured? Even if pretty well manured, the grass takes nearly all the strength of the manure. There should be extra manuring, specially for the fruit. Fall is perhaps the best time, as in that case the manure will have time to settle into the ground sufficiently to reach the roots before another fruiting time. If neglected in the fall it may better be attended to

very early in the spring, as soon as the snow is off, or even before. It is not necessary to withdraw manure from the field for the sake of the orchard. You may use a kind that you have never applied to the field. Swamp muck, any black earth, leaf-mold, scrapings from hedge-rows, mixed with lime, is good. Wood ashes are nearly half lime, and the lime in them is in the best possible condition for this use. Half a cord of muck, with a bushel or two of ashes, would cause many a tree to produce, for several years, twenty-five or thirty bushels of apples, that for years past has produced but half that amount; and the quality of the fruit would be as much improved as its quantity. Do not lay it too near the body of the tree. The small rootlets of a *young* tree are, of course, near the stem; but with an *old* tree it is different. They have been pushing outward for years; and now they draw the nutriment for the tree from a circle, ten, fifteen, and even twenty feet from the center. For a large apple tree we would spread the compost over a circle of forty feet in diameter.

Now is a good time to cut grafts. They should be kept in a cool place, and if a little moist the better.

Currant bushes, if not thinned out in the fall may now be attended to. Cut off the crooked, lateral branches, and head in the tall ones. Much has been said in favor of cultivating the currant in the tree form. It is rather difficult except for accomplished horticulturists, and we very much incline to the belief that the old way of having them in bunches, about four feet apart, properly trimmed once a year, the ground to be hoed often, and kept clear of grass and weeds, is as well for farm purposes, though not

as large fruit can be obtained in this way. The currant is easily grown and is a healthy fruit, possessing an extra value from the fact of its coming at a time when hardly any other fruit can be had.

Quince bushes should be surrounded with chip manure, or other decaying mold, to keep down the grass, and now is a good time to apply it.

Fruits are no unimportant part of the living of a family. We wish every farmer would lay his plans in season, and take time by the foretop, for improving in this branch of farm industry. If he lives near a market it is the most profitable; and wherever he may be, there is a refining influence in fruit culture, which should not be overlooked. There is solid comfort in it. There is an innocent luxury. Nothing tends more to contentment. When the children are far away, and have built them other homes, they will remember the old homestead, but no place in it, except the place by the old fire-side, where a loving mother used to sit and mend their clothes and darn their stockings, and bear patiently with their childish pranks, and teach the young idea, will be remembered with more longings to return, than where their childhood's lips smacked the fruit of a favorite tree. Apples, early and late, for summer, autumn, winter and spring, pears, peaches, quinces, plums, cherries, apricots, gooseberries, currants and strawberries should be the delight of every farm, unless peculiarity of climate would exclude some of these, and many others should be introduced if soil and climate favor.

DEAD ANIMALS.

We hope you will have none such about your premises. If unfortunately you should, do not leave them to pollute

the air with noisome effluvia. Cut them in pieces, and mix the pieces with leaf mold, swamp muck, almost any kind of rich, dark colored carbonaceous soil; add to the pile a little plaster, or coal dust, or both, and in a few weeks you will have a compost equally valuable with barn manure; and the quantity may be pretty much as you please, from a one horse load for a fowl or a rabbit, to twenty cart loads for a horse or an ox. We certainly hope better for your animals, but if they die in spite of you, there is not the least difficulty in getting about one-fifth of their value by putting the carcass to the best possible use as a fertilizer. Some, we know, are sending their dead animals to New York, and thus getting the whole value. But if our theology, our sense of right, our estimates of justice, are not wholly at fault, they will rue the day, and quite sure are we, that our readers would wish to make a better use of their misfortunes.

SOWING CLOVER SEED.

January, February and March, as we recede from the Gulf of Mexico and approach that of St. Lawrence, are the times to sow clover seed in wheat fields. Sowing it in the snow, to be swollen beforehand and washed into the soil as the snow dissolves, has been recommended. Harrowing it in with a light, many-toothed harrow, just after the snow has gone, while the ground is yet moist but not wet, has also been recommended. If you practice this way, harrow lightly, just enough to cover the seed, and then apply the roller to press the disturbed wheat roots back into the soil. The effect on the soil—to open its surface to aerial influences, to enable it to absorb ammonia from the air, and to bring it into a mellow

condition for the spreading and penetration of the wheat roots, must be favorable. It is said also, that scarcely a plant is killed by the operation, and that the process of tillering is greatly facilitated by the harrowing and rolling. But we do not like to commend unqualifiedly a prescription which seems so harsh, not having practiced it, nor with our own eyes seen its results.

A kindred operation we once tried. On a single acre of turf bound upland, in old meadow grass, rich, but for some years previous giving but very small crops, we plied the harrow till the whole surface appeared like a bed in the garden, fitted for planting. This was early in March. Our neighbors looked at us with amazement. Good farmers told us that we had killed every root. We replied, that we feared we had; that all we wanted was to kill about nine-tenths of them, in order that the decay of those might give new life to the rest; but that we might have killed the whole, and that if so, their predictions of our crop would come true. The fact was, it was an experiment with us, and we feared we had overdone the matter and should get laughed at. The twentieth of June relieved our fears. We then harvested nearer three tons than two from that acre, and not much over one from the adjoining land, though all were top dressed alike, and for two or three years after, that acre produced more and better hay, with the same manuring, than the acres adjoining.

It has long seemed to us, that the trouble with old turf land mowings, (we mean such as for some reasons best known to himself, the owner does not choose to plow,) is that there are too many plants, that if you can kill nine-

tenths of them, making manure of them for the rest, you would get a better crop. But we have never dared to commend the harrowing process, because we have had no experience except in that one case, and that on a limited scale. What did well on a single acre, one year, might not do well on other acres, nor on any acre other years. We would advise, however, to experiment. Try a patch, if no more, of thick turf land, which you do not wish, for reasons of your own, to plow, in this way;—harrow thoroughly, just after the snow has gone, while the ground is moist but not over wet. If you apply a top dressing apply it before harrowing. It would be well also to sprinkle on a little clover seed, say one quarter as much as you would seed with on land that had been plowed. In case of sowing clover, a sprinkling of ashes would be of great service. To make such an experiment will cost but a trifle, and would enable you to see for yourself whether so foolish a suggestion, as this will appear to many, is good for anything. If you make it, keep an exact account of the cost for labor, seed and manure; and if you will report the result to us next August, we should like it.

WOOD AND TIMBER.

We suppose every farmer has his year's stock of wood drawn, and that he is now preparing it, or has already prepared it for the fire. It is well to let it lie in the wind a few days before putting it under cover. If packed too soon after cutting, it requires longer to dry, and sometimes gets the dry rot, in which case its value is greatly diminished. Remember that wood, dried under cover, is worth nearly 50 per cent. more for heating purposes than

green wood, and about 25 per cent. more than that dried in the open air.

Timber for fencing or repairing should by all means be drawn to the place in winter. Team work will soon be in active demand for purposes which can be accomplished only as the spring advances. The thorough farmer will be for having out of the way whatever can as well be done at another time.

MAPLE SUGAR.

Our next number we suppose will be in time for this work. The tubs and whatever contrivance you adopt for boiling economically, should be in readiness. If you find the weather becoming warm, and the snow getting low around your trees, and should conclude to tap them, before the end of this month, we hope you will adopt a better course than the old one, of using troughs roughly hewn out, and boiling in a row of iron kettles, suspended between two logs. The sugar crop promises to be a profitable one this spring in the Northern States, as sugars are high; but with the old way of boiling, so expensive of fuel, attended with so much labor, and so little adapted to secure a good article, we think it might about as well be let alone. For small trees, two spouts to a tree are as well as more. Let them be on the same side, from five to seven inches apart, the ends converging so as to drop the sap centrally in the same tub. The spouts are best made of clean, straight grained pine. If the ends are not turned they should be whittled very nearly round, and should be as tapering as consists with their holding fast, that the pressure between them and the wood of the tree may be confined as nearly as possible to the outside, where the wood and the bark join. If too tapering they will fall out

by the weight of the pail or tub suspended from them. It is the practice of some to drive a nail into the tree to hang the tub or pail from, but this is unnecessary, if the spouts are driven rightly, and are notched for the bail or string. Pails, we believe, are now manufactured at about seventeen cents by the quantity, and if the painting of the inside be omitted, and extra paint be applied to the bottoms and outside, they may be used about as economically as anything else. One set, well used, would last half a dozen years or more. The boiling, if possible, should be done at the house, in some out-building, or in one erected for the purpose, that the chips and refuse wood from the year's stock of fuel may be used. But more on this subject next month.

EARLY PLOWING.

As soon as the soil is in the right condition, neither wet or dry, but moist, is the best time for plowing. Clay lands must be let alone till dry enough to crumble before the plow. If not underdrained, that will, of course be late. Hence the importance of underdraining such land, as without it the crops are necessarily started late, and owing to the coldness of the soil, advance but slowly, whereas, if underdrained, the soil becomes dry earlier, and maintains a higher temperature throughout the summer.

Oat land should be plowed as soon as in condition, and sowed early. If you seed with grass at the same time, remember not to cover too deeply. The small seeds of the grasses will not force their way through a great thickness of earth. It is better to sow the oats first, cover them with a harrow, then sow the grass seed, and cover with a light bush. Much grass seed is lost by too deep covering.

LEISURE HOURS.

The evenings are getting long. While social enjoyment may well claim, and should have a part of them, let a portion be devoted to self-improvement. Reading, exchanging visits with your neighbors, talking over farm affairs with the more intelligent, that they may instruct you, and with the less intelligent that you may instruct them, attendance on public meetings and occasional lectures, affording rational pleasures to your children, teaching them, aiding them to get their lessons for the morrow's school, encouraging them to read, inspiring them with a love of knowledge, are all worthy of your attention.

O, farmers! you and your wives and children, in your retired homes, are the happiest people in the world, and the "best to do," if you can only think so, and improve your privileges. We know that in other lands, the cultivators of the soil have been ignorant, low, inattentive to the genial proprieties of life. But we pray God it may never be so in our free country, and we pray you *never let it be so*. You are the ones to decide.

Neither government, commerce, trade, city foppery, or metropolitan arrogance *can* put you down, and Providence *will* not, if you are true to yourselves.

SCHOOLS FOR YOUR CHILDREN.

Of these we have said so much, and so often reminded you of your duty, that we will now only ask you to recall our former suggestions. If that social elevation, which we earnestly seek, for the farming community is to be perpetuated, it must be by the aid of those very schools, for which you are personally responsible.

REQUISITES OF AGRICULTURE.

Not every man who calls himself a farmer, is one; nor do I consider that a man is a farmer because he owns some land, and has no other profession. Something more is necessary in order to entitle him to so good a name.

Land, you would say, is the first requisite. It is not exactly so, for a person may be the best farmer in the world, and yet not own a foot of land. English farmers almost universally set it down as bad policy for the farmer to own the soil he cultivates, because if not very rich, it absorbs all his capital and leaves him none to operate the farm with. There he can rent land for three per cent on its selling price, and he can use his floating capital so as to make it give him twelve per cent. If he can use it on the land at twelve per cent, they ask why should he lock it up in the land at three. They say the farmer never should own land till he has done farming—till he has made his fortune and wishes to retire; because, so long as he wishes to be active he can get more for his money as a floating capital, always at command, than as a fixed capital locked up in the soil. Their reasoning is unquestionably sound as things are in that country. Here it is the rule generally, that the farmer owns the soil he cultivates; and I hope that this rule may long hold, though it must be confessed that it often cramps him severely for the means of carrying it on. A great evil with us is, that farmers, after paying for the land, have not capital enough left to work it advantageously. They limp all the way through life, for the want of ready money. What the American farmer wants is, to own his land free of debt,

and then to have at command a floating capital equal to at least half its value. If he cannot compass this position in the outset, I see not but that he is left to choose one of three things:—either to rent land and use what capital he has in carrying it on, or to raise money for a floating capital by mortgaging his land; or to work disadvantageously for the want of ready means; and I confess that I should hardly know which of the two first to choose. In parts of the country, where the land is nearly all feasible, and no great improvements are to be made, I see little more than a bug-bear in the horror which Americans feel at the thought of cultivating other men's land. In most parts the land is broken, much of it unproductive, to be reclaimed with great labor and expense, and any one would much rather drain a swamp, clear the stones from a side hill, or make any other permanent improvement on his own than on other men's. But then, how would he look in trying to make improvements, if he had no money to make them with. Money makes the rocky slope arable, the barren swamp productive; and of all other permanent improvements. It is true that labor will do all this, but the farmer cannot possibly do it all with his own labor, and support his family while doing it. There is a difficulty here which every farmer must solve for himself as best he can.

As to how much land a farmer should have, much will depend on his means, much on the quality of the land, and more on its location. A few acres near New York, Boston, or Philadelphia, might be as good as a few hundred on

the Green Mountains. Doubtless, a little farm, well tilled, is as much better than a great one neglected, as a little wife well willed is, than a great one that scolds. But if a farmer has health, energy, intelligence; if he is capable of directing the labor of others as well as very active himself; I see not why the farm should be small in order to be well cultivated. Why not have a large farm well tilled? Farming is, in one respect, like any other business; if you do a little, you get little; if you do much, and do it with energy and good judgment, you get in proportion.

Little farms will not admit of the purchase of improved implements; they do not favor the employment of sufficient team work; what is done on them must be done mainly by hand; and therefore the cost of production will be increased. Will any one deny that it costs more to raise a bushel of potatoes, of corn, of rye, of oats or wheat, on the patches of a small farm, than on the broad, open fields of a large one? And yet the buyer will not give more because grown on a little farm.

Looking at the mere matter of living, at the problem of keeping the expenses within the income, as if the only thing were to get through life as easily, as quietly and as obscurely as possible, I see not that it makes much difference how much or how little land one has. Ten acres would carry a family through, if you would pinch down their wants to the zero point; and a thousand acres would be little better unless there were some enterprise. An Irishman in Galway will live on half an acre, and not starve except when the potato blight comes. With his notions about living, half an acre is probably as good as more. Another curious fact is, that, in

England, it often happens that a small farmer, owning his land—there are a few such—runs it out and comes to nothing, while large farmers of rented lands are growing rich all around him; and sometimes it happens that the small farmer of his own land, after running it through, rouses up, and, if he can find some friend to loan him money, for nobody there wants land unless they have money with it, rents a large farm and becomes rich by the operation.

If a man would do something and be somebody, he must have a field of action large enough to arouse him and draw forth his energies. Little farms make little men. I want our farmers should be at least equal to any other men in the community, not studying how cheap they can live and how many privileges they can cheat their wives and children out of, but how they can best fulfill all the high ends of life; and when I consider the influence of energetic farming to draw out and build up the man, I am unwilling to hear much about cutting down farms to less than from one to two hundred acres. If the farmer have the powers of a man, and is willing to use them, such a field will be none too large for him. If he wants to live more quietly, if he cannot bear to have the oversight of hired labor, if he would rather pinch his family out of reasonable wants, let him take less land, earn little and spend less; but let him make up his mind not to be disappointed if a one man power on a farm, whether large or small, prove unsatisfactory.

Another requisite of agriculture is skill. It has been a sad mistake to suppose that any dolt of a boy, without going to school, without reading, with no cultivated powers of observation and reasoning, provided only that he could

work, was just right for a farmer. Such a boy might make a good farm-laborer, if he could always be told what to do, how to do it, and when. But to be a good farmer, one needs to be of a quick perception, sound in judgment, able to reason well, to draw conclusions readily and to act promptly. He needs to have been educated well; and then he needs a great deal reading, thinking and observation all through life. There is no employment, on which a highly educated, thoroughly disciplined, well informed mind can be brought to bear more advantageously. The mechanic works by rule; the farmer, in the exercise of a sound discretion, departs from all rules, and works as best he can, under the ever recurring emergencies of his vocation.

Another requisite of agriculture is capital. No farmer can get on advantageously without a floating capital equal to about half the value of his real estate. I do not mean to say that the actual ownership, free from debt, of the value of the farm and half as much more is essential, but that from some source the farmer, in order to manage advantageously, must have means for purchasing at favorable times, and must be able to sell when he pleases, and not at unfavorable times. The essentials of agriculture then are land, skill and capital. If you try to farm in the absence of either of these, your farming will be like a tripod with one leg broken, it will fall. The three must go together; the land, either owned or held by an equitable lease, as the basis of the whole; the skill, to enable you to manage it well, and the capital to erect buildings, procure implements, hire labor, and enable you to buy and sell at such times as will be most advantageous.

I will not omit here to speak of credit. If the farmer is known as a man of integrity, his credit will be good. He can generally command money at a legal per cent; and this is virtually so much capital. If it were not so, none but the rich could farm advantageously. But moral worth is equal to a considerable capital; and this is so much in favor of the man of slender means but good name.

Some may wonder that I have not spoken of health, physical power, strength to labor, among the requisites of agriculture. These are desirable for any calling; but are not essential to farming. Not a few of the best farmers I have ever known, were feeble men, physically. For the man of delicate frame, but of active habits, one who can do light work nimbly, turn quickly from one thing to another, be every where present, and keep all things in the right train, the farm is the very place. I would rather have such a man, than one that can brag till midnight of great days' works.

When I have heard men tell of mowing three or four acres in a day, I have said to myself, probably you have never done such a thing, and if you have, you ought to be ashamed of it. It is by no means the men who do the greatest days' works, that are the best farmers. In Scotland, it is no uncommon thing for a widow to carry out a long lease of her deceased husband, and to become wealthy by it; not that she performs the labor, or any part of it; yet she oversees and directs the whole; is as truly the head of the farm, as her husband was while living.

I admit that this could not as well be done here, where labor is not as plenty, and where laborers will not as readily follow directions if the employer

is out of sight. But the idea that the farmer must labor with unreasonable severity; that he more than others is doomed to ceaseless toil, and that he should undertake little more farming than he can do with his own hands, is all wrong. That farmers do labor intensely, I admit. But this is not a matter of necessity.

Our climate is invigorating; their employment gives health and energy; the profits are theirs; and they labor with a will, and feel much better when the days' work is done, than those who are weary of doing nothing.

True that the farmer must be industrious; his business is an absorbing one; he is never out of work, for there is always something on a farm to be done.

I doubt whether it is the true policy for the farmer always to put himself in the line with his men. There are a thousand and one cares that devolve on him, about which they do not trouble themselves.

If he does as much of the field labor as they, and then attends to these etceteras after their labor is over, or before it commences, he condemns himself to the hardest task, and cannot give himself time to read and to become as well informed as the man at the head of a farm should be.

Great physical strength, and unreasonably severe labor are not essential to success in agriculture. No harder labor, than is consistent with high health, great intelligence, and longer life, than falls to other professions, is required.

THE FARMER'S LIBRARY.

This need not be large. It need not be expensive. It should contain matter suitable for the different members of the family. The Agricultural department

may well consist largely of periodicals. Bound volumes of works devoted to the farming interest, will make a valuable portion of it. The farmer who takes several works of the kind, and gets them bound at the end of the year, will soon have the foundation of a valuable agricultural Library, at a very moderate expense. If the Journals he takes are of a size and form to range conveniently with other books, all the better. Works that explain the *reasons* of things, that show the *why* as well as the *how*, and thus lay the foundation for independent thinking and action, are of far the greatest permanent value. All agricultural publications should be preserved for reference. The reader will often see something which his judgment approves, and which he would gladly reduce to practice, but it does not happen to be practicable just at that time. Let him mark the place and lay it aside, with a view to refresh his mind with, when the time comes for doing the thing to which it relates. We repeat, that the farmer's library may well consist largely of periodicals, recent and preserved in bound volumes. Nothing so convinces us of the great value in a family, of a few well chosen books, and of periodicals often coming fresh from the press, as to observe the superior character, intelligence and usefulness of persons grown up in families, where there are books and periodicals, as compared with those from families where there are none. It is not the great number of works that produce the effect. Our observation has been, that children, brought up under an avalanche of books and papers, are no wiser, no *smarter*, no more intelligent, do no better in after life, than those who have had access to but few; while, on the other hand, those

who have had access from early life to a few books and papers, and those often not of the choicest kind, have differed wonderfully from those who grew up where there were none. In most families a profusion of books would be of no sort of benefit; a few, with suitable periodicals, are an incalculable good. They seem to enstamp another and a higher destiny. Children most readily comprehend what is local, and in their own region. They are soonest interested in reading something of which they had some previous knowledge. We would say, therefore, first of all, take the periodical that is nearest to you. A poor thing it may be, but it is very good, compared with none. Take it for your children's sake if not for your own. They will learn, in picking out the items that interest them, how to acquire more general intelligence. Next, take the best, wherever published, and do not wait till your children have grown up before you. Make up your mind which the best is. Aside from parental influence and the district school, the latter hardly to be excepted, the local paper is the greatest educator. But unless farmers would doom their children to a life-long inferiority, they must furnish the means of information on a more extended scale.

Children that begin to acquire knowledge early, and are furnished with the means of gratifying a taste for reading, formed at home, and under parental care, where in ninety-nine cases in a hundred, such a taste is formed, if formed at all, seldom become dissipated, and almost always achieve a higher destiny in life, than those in whom a taste for the acquirement of information is not early formed.

SOMETHING IN BEHALF OF GENTLEMEN FARMERS.

The Massachusetts Society for promoting agriculture has existed more than sixty years, and is composed of farmers of Boston, who work more with their *heads* than their *hands*. The late JOHN LOWELL, while he lived, was their leading spirit. Although *not working men*, in the ordinary sense of the term, it is clear that they did, and are doing, much good. No one can examine what they have done without being satisfied that *gentlemen farmers*, in the proper sense of the term, are a useful class in the community.

Will any one say that Josiah Quincy, John Lowell and Daniel Webster, because they have and were chiefly occupied with other things, were not good farmers? I tell you nay; they understood, and practiced better farming than most of their neighbors. Far be it from me to speak disparagingly of the labors of the *working man*; but still I am satisfied that some of every class are essential to constitute a complete community. J. W. P.

WHAT IS THE DIFFERENCE?

The *working farmer* may be considered as one who works for a living, and works at that employment, because he prefers it to any other; or, as one who works on the farm as his principal occupation, not from necessity, but of choice, believing conscientiously that useful industry is a duty, and preferring that employment to any other, or considering himself better qualified for it than for any other.

Of gentlemen farmers there are at least three sorts. First; restless spirits, ambitious, fond of notoriety, farming it to be like Cincinnatus and Washington, to get their names in the newspapers,

and to be talked about. We could name a few of this class, but perhaps it would give a kind of notoriety that they would not like. They are generally pretty good fellows, and with a good deal of energy, and are fortunate in finding so useful an occupation to expend their energies upon.

Second, men who, by energy, or good fortune, or both, find themselves in possession of ample means, and having, or thinking they have a real taste, choose the farm as the site for their country seat, caring little what the world at large think or say of them, but desirous of standing high with their own caste, and for this purpose spending money lavishly, which is all very well for those who get it, and perhaps none the worse for them—a sort of nabobs, well known to each other, but unknown outside of their own circle, and about as little cared for by the great world as they care for it.

Third, a class of men, of generous sympathies, and a noble concern for the public good. To this class belong a portion at least of the men named in the preceding article. They had contemplated the position and the labors of the working farmer. They comprehended the importance of agriculture as the foundation of national prosperity. Having no other employment, or none that was incompatible with the oversight and management of a farm, they went into it, thinking no doubt that they could do a little better than the old farmers, but heartily desirous of advancing the interests of agriculture, and of making themselves useful. All honor to these men. If they make mistakes, it need harm none but themselves. If they make valuable improvements, all may enjoy the benefits.

There is perhaps a better class of gentlemen farmers, though we should call them working farmers. They are men who, after amassing a snug fortune, and after passing the meridian of life, thought it safer to withdraw their capital from the uncertainties of trade and invest it in real estate, with the intention, it may be, of being gentlemen, as the phrase is; but finding themselves unhappy out of employment, they want to work, and hence become downright, thorough going, working farmers.

It is the mission of this latter class—gentlemen farmers turned to working farmers—to teach how capital may be pretty freely combined with labor in the conducting of a farm, with paying results; and some of them, within our knowledge, are fulfilling their mission well—are using capital freely, and yet getting a good return.

The second class, as named above, are only showing what every body knew before, that, by fancy farming, oceans of money may be thrown away.

INDUSTRY.]

Throwing it away, living by it, and thriving by it, are three very different things. We will illustrate our meaning:

I—THROWING AWAY INDUSTRY.]

It is as true of other professions as of farming, that industry is sometimes wasted, and at others made available; but we speak now of industry on the farm. There are three farmers of whose doings we have been observant for many years—were so situated that while we attended to our own business, we could not well avoid observing theirs.

The first inherited a farm of eighty

or one hundred acres, worth, say, with the stock on it, \$3,000. On coming into possession, he owed nothing, but on the other hand had a few small accounts against good men. His farm was of medium quality, with "pasture, mow-land, and tillage," in good proportions. It was pretty well fenced, but like too many farms was cut into more and smaller lots than was advisable, and the fences were many rather than good, and what we mean by saying it was pretty well fenced, is, that there was enough fencing stuff scattered about to keep it well enclosed for a large number of years, with very little outlay, if he had "worked it right."

But he was averse to alterations; was remarkably industrious; would work twice before he would think once; had no fancy for changes; his father had done well enough in the old way; and he was for letting "well enough" alone. All things on that farm remained as they were, except that before his father's death there had been two to work on it, and now there was but one. His good father had taught him that it is not profitable to hire labor, that a farmer must do all his work, and have no hired labor to pay for out of the year's products. It was a fixed, unalterable maxim with him, that a farm will not produce enough more for the labor of a hired man, to pay his wages and board. That was so; his father said so, and he knew it. All reasoning about an increased future productiveness in consequence of labor now bestowed, was mere fancy. The best way was to do what he could, and have no hired man to pay. "It takes a great deal of produce to board and pay a hired man." That was his argu-

ment, and you might as well undertake to turn the Alleghanies bottom upwards as to upset the stereotype, or oust him from it.

Well what is the result? Why the man has worked well; has done as much on that farm as one man ought; the fences are as numerous as ten years ago, but not quite so good; the land that was productive then, is just about as productive now; that which was then unproductive, simply for the want of labor, produces nothing now; the owner has had a rather inexpensive family, has scrimped and lived, and nothing more. But how? More by the interest of his money, or rather by the rent of his farm, than by his industry. His farm would have rented for \$300 a year, at least, or would have sold for a sum that would have given that interest, and that would have furnished his family with about as many comforts as they have had. We do not mean to say that it would have been as well for him to have sold his farm and lived stingily on the avails, nor as well for the community if he had lived idly. Industry is better than idleness in every point of view—better for the individual and the community; gives more health and contentment; promotes virtue more and vice less. But as regards the pecuniary results alone, such industry as his seems to us very much like being thrown away. His name is Jacob Slow; and the reader may expect to hear more of him next month.

II. LIVING INDUSTRY.

It is not living, to work on a farm ten years, summer and winter, "to eat the bread of carefulness" all that time, to deprive one's family of many things they really need, to give away next to

nothing, and have no more at the end of the decade than at the beginning.

Besides and beyond all that, something is due to old age, when it may not be as convenient to rise early and work late, something to the children, to give them a like start in the world with the father, and something to a more liberal contribution, than Jacob Slow was wont to make, for the aid of the poor and for the public good.

James Fast was faster than Jacob Slow, but not as fast as he might have been with perfect safety. He commenced with a similar farm, but unfortunately, owed about half its value. He did not believe in taking much risk, but ventured to purchase good implements instead of using the old stubs; to expend a few dollars for extra manures, and to hire a man six months in summer. We will not now go largely into his farming operations. Having introduced him to our readers, we assure them he is a real good fellow, and they shall hear more of him another time.

At the end of ten years he had paid off the mortgage, had considerably enhanced the value of his farm, owed no man anything, had a little money before hand, and all the while had lived well enough, and had never failed to put his shoulder to the wheel, when the public good, or private charity required. This might be called living. But James Fast will tell you that he might have done better, that his fault has been excessive caution; that if he had brought his land up sooner, by investing more in labor and fertilizers at first, he would to-day have been farther on in the race. His own language is: "If I were to go over those ten years again I would not be in such a chafe to pay off the mortgage, but would lay out the first

money on the land and make it produce like blazes." He compares the crops of the first years with those he now grows, the small number of highly productive acres then with the larger number now, from which he draws out the figures and proves that one dollar buried in the soil the first year has done him far more good than a dollar paid on the mortgage. It should be stated that the mortgage was held by an old company, that would have no objection to such a man as James Fast owing them as long as he should pay the interest punctually.

III. THRIVING INDUSTRY.

John Faster was not *fast* in any bad sense of the term. He was very different from his neighbors, of whom we have before spoken—generous in his temperament, but not reckless; bolder in his operations than either of the others, but not rash. His farm contained nearly 200 acres. It was larger, but otherwise no better than either of the above mentioned. For years it had been worked by a one man power, and of course, but here and there a patch had been worked at all. It was in the summer that he bought it, crops and all; and the crops were made up more of bushes and poly pod, than corn, wheat or grass. Such parts of the farm as nature had made cultivable without much help from man, had been *run over*, and the rest had been *run round*. Straggling fences ran in every possible direction and with all sorts of angles and curves. John's predecessor had contrived to keep up, or down, a great many fences. The buildings were badly located, inconvenient and out of repair. It had been held by a man, who, like Jacob Slow's father and himself, did not believe in paying wages for farm work.

What one man could not do, had been left undone, and consequently, *the undone* on that farm was more than *the done*. It was bought, with a small and rather shabby stock—such as an uncultivated farm will keep—and a few implements, more notable for their age than for any original merit, at a little above \$4,000. John Faster was in debt nearly \$4,000, the day he took possession, and he owed more, before he owed less; and many were the predictions that he would never pay up. "Poor farm, poor farm," said one, "it never has produced much, and it never will." "You can pay for no land, with what you raise on it, about here," said another; "land is too dear for that." The prospect was rather dismal, when John took his young wife home and they began house-keeping. It was no wonder that old fogies, who have no eyes to see how a bad farm can be made better, pitied him. John looked into the future. With his mind's eye, he saw that farm as it would be after he should have controlled it a few years. He saw that past slovenliness had left accumulations of manure, that would be like an island of guano for him; that there were immense deposits of highly fertilizing matter, on various parts of the farm, so situated as to require no long up-hill carting, that would need but little composting, to produce good crops; that there were exhausted fields, from which crops could be grown, that would pay for the labor of the first years; that there were large extents of yet unproductive land that could be reclaimed at no very great expense, and that the products of the first reclaimed portions would be a great help towards reclaiming other portions.

John understood as well as Jacob,

that if you board a hired man at an expense of \$90 a year, and pay \$160 for his services, it makes a big hole in the products of a poor farm; but he understood also, that as the extra labor would help to change a poor farm into a good one, it might be a good "dodge" after all. He understood that costly as hired labor is, it is more costly to keep unproductive acres fenced, to pay taxes on them, and to drive round them, ten, twenty-five, fifty years, or get mired if you undertake to go through. John went to work. He hired two men, one for the summer and the other for the whole year, which, with his own labor and occasional days' works, was equivalent to three men, and with a span of horses for all work, and a good yoke of oxen, just about quadrupled the old one man working force of the farm. If we take into account the more effective implements he used, it would hardly be extravagant to say, that the working force was five-fold that of his predecessor. We have before said, that he went deeper in debt, before he began to get out, and will here add that he is not yet wholly clear of debt; but in twelve years he has turned a universally reported poor farm into one of the best, and is now worth more, over and above all indebtedness than the value of the farm at the time of the purchase. How this has been done, shall be explained in a future number. John Faster has always scouted the idea that a faithful hired man, or even one that is not very faithful, nor remarkably intelligent, if working with a wide-awake employer, will earn no more on a farm than barely to pay the board, wages and wear of implements. He knows that he and each of his men have done more than that, either in present increase of crops,

or in paving the way for future increase; and it is with him a settled point, that well directed labor on the farm pays a profit. But more of him and his farming hereafter, only let it be understood that John FASTER is a live man, not a myth.

ABOUT SPREADING MANURE.

As the time for top-dressing mow lands is at hand, we have a word to say on the subject.

As to the question of fall or spring, we do not believe any body can answer it for all cases.

If the manure is old and well composted with muck or other decayed vegetable matter; if the ground is such, that there is no danger of hard washing from it; and further, if you will work the manure down finely and evenly to the surface, we have no objection to fall top-dressing. It has its advantages. The effect on the first year's crop will probably be greater, and the permanent effect may not be less.

For spring [top-dressing we prefer the following mode, having often practiced it and found the little extra labor implied, well paid, as we believe. It is, to carry out the manure, (stable or barn yard) early, to lay it in somewhat larger heaps than would be most easily spread, say six or seven to the large load; then to carry and throw over each heap a few shovels full of well cured muck, or, in want of this, of any rich soil; and to let it lie in this condition till a good time for spreading it. That time is, when a long, cold north-easter is brewing. When the indications of such a storm are strong, we would spread the manure, but not before. Let it be spread evenly, and worked in among the grass roots. A

bush harrow may in some cases be used to advantage, and we would commend its use, provided you will go after it with a many-tined fork, or a rake, and regulate the inequalities which the harrow may have left, drawing the manure from places that have received too much to others that have received none.

The muck or soil with which the heaps were covered, will render the manure more crumbly, will enable you to spread it more evenly, and will help to retain the ammonia, if your pre-calculations of the weather should fail, and you should have sunny instead of rainy weather after spreading.

To see manure carried on to mow land, thrown about in lumps, and left in that state through successive sunny and windy days, filling the air with its odor for miles, is suggestive of anything but economy. If 20 loads of manure applied in that way would give two tons of hay the first and second year over no manure, we believe it would give more than three tons, applied as we have suggested; and the whole extra labor for so applying it, need not be more than from one to two dollars.

With regard to spreading manure on fields to be plowed in, much may be saved in a similar way. It should not be thrown about in lumps to lie a week or a fortnight polluting the air. If for any reason it is to be carted long before being plowed under, it is well worth the labor to cover the heaps over with soil, and then let them be plowed or harrowed in as soon as spread.

Would it not pay well to harrow it in first, then plow, and then harrow again? We believe it would. Much is lost by not incorporating manures sufficiently with the soil.

A STANDARD.

In looking over the *Transactions of the Chester County (Pa.) Agricultural Society*, for 1858, which some one, we presume J. Lacey Darlington, Esq., its enterprising Secretary, has had the goodness to send us, and which appears to us an admirable condensation of facts, interesting to all, but especially important to the farmers of that county; worth more, as it strikes us, to every one of them, than their annual tax to the Society; we have been exceedingly gratified with the standard of agricultural excellence, which the committee for awarding the premium for *the best cultivated farm*, saw fit to place before them in the discharge of this duty. It is essentially that of the New York State Agricultural Society. We place it before our readers, as a sort of standard to be aimed at, in the management of a farm.

It seems that Mr. Thos. W. Jones obtained the silver cup. As often as he slakes his thirst [from it, may it] afford him unmingled pleasure, and may it go down to posterity as a memento of his excellence in the most important of all arts. To win against such competition as he must have had in Chester County, is no small triumph. But oftener than he will drink from the silver cup, or be remembered in consequence of it, will he feel an exquisite pleasure in the possession of a farm brought to such a degree of perfection by his own industry and skill. When the warrior has triumphed, others have fallen. The merchant prince, in many cases at least, possesses more than he has fairly earned. The millionaire banker has made many poor. The farmer who has triumphed over nature, who has made his portion of the earth's surface pro-

ductive, beautiful, worthy of a premium against brisk competition, has injured no one, has benefitted many, in enriching himself has contributed to enrich his country. To the pleasure of such a triumph there [is no drawback. It would be more glorious than to have triumphed on the field of Waterloo, if the world could ever get its eyes open to see and estimate the really good and true and useful.

In the standard of the New York State Society, as adopted by the Chester County committee, what is there that should be dissented from? We grant that not all the points are equally important. The grass, flowers, and shades in the door yard, for instance, are not as essential to good farming, as the manuring, the field cultivation, and the pecuniary results. The out-houses spoken of are not as important as the main buildings. Fine and tasteful arrangements for the homestead are not of as much consequence, as the crops and stock, with which to pay for them. But all are parts of one whole, at which every farmer should aim. We desire our readers to peruse the ten items of good husbandry, copied below, with a sort of self-application. Is not a due attention to what you might consider the smaller matters, perfectly consistent with an energetic prosecution of the greater? Surely a farmer would not be poorer at the end of forty years for having cultivated a fine vegetable garden, nor for having kept his buildings in a good state of preservation by painting, nor for having kept the road through his farm clear of noxious weeds, nor even for having feasted his palate with choice fruit, or his eyes with a beautiful door yard. But here is the standard:

1. A good soil well tilled, and kept free from noxious weeds, both in the fields and on the road-side.

2. Fields well fenced, and suitable in number to the size of the farm, with arrangements for watering stock in each.

3. Substantial and convenient barns and stables, of sufficient dimensions to contain the produce of the farm, and comfortably house the cattle kept on it.

4. A judiciously arranged dwelling, in neat condition, with conveniences and facilities for household duties.

5. Convenient buildings to facilitate the economical management of the farm; among which may be enumerated, a wood-house, a wagon and tool house, a work-shop, a convenient piggery, a corn-house, ice-house, smoke-house, &c., &c.; all secured against decay by being well raised from the ground, and neatly painted or white-washed.

6. Convenient yards attached to the barns and stables, so arranged as to prevent the wastage of the liquid manure, well sheltered from the blasts of winter, and provided with water for the cattle.

7. Door yards well set with grass, flowers, and shrubbery, and shaded by ornamental trees, indicating to the passer-by the dwelling of taste, health and comfort.

8. A kitchen garden highly cultivated, and containing the best vegetables for the table adapted to our climate.

9. A fruit garden and orchard, where a variety of good fruits are successfully cultivated.

10. What relation does the owner of the farm bear to its present condition? Has he brought it to its present state of fertility by his skill and good management; or, is the soil naturally rich and productive, yielding abundantly through its own natural fertility rather than through his skill and attention to its culture?

Remarks:—These questions are im-

portant. The premium, we suppose, should be given to the man who has made his farm the best, and not to him who has inherited the best farm.

WHAT LESSONS HAS THE PAST SEASON TAUGHT US?

Answers to this question are "*in order*" during the first half hour or thereabouts, of the sessions of a club composed of less than a dozen neighboring farmers, who meet at each other's houses once a month in the moonshiny nights from November to May. At our first meeting of the present winter, one of the members remarked that he had been endeavoring to put into the form of answers to the above question some of the most important of the lessons which experience and observation had taught him during the working season just closing, or closed; or, in other words, some of the most valuable of the additions he had been able to make to his stock of useful agricultural knowledge. He said he had been induced to do this in consequence of a persuasion that every man ought to be wiser, and especially to know more of the business which occupied most of his time and attention, at the end of each year, or other such period of time, than he was at the commencement thereof; and, that he must be a dull scholar indeed who had enjoyed for a whole year all the privileges of the excellent school which experience teaches, if he could not recount some at least, of the lessons which that teacher had been inculcating during a twelve-month's schooling. Having felt convinced that every member of the Club had learned something new during the past working season, and that after having had due time for recollection, each one could enumerate

several such lessons ; he had ventured, he said, to propose that a half hour or so of each meeting should be devoted to details of this kind, (each member taking the lead in turn), and to such questions and remarks as might be suggested thereby.

This portion of the proceedings of our club having proved exceedingly pleasant, and not a little profitable, we can venture to recommend that other farmers' clubs should make a trial of a similar employment of a portion of their evenings.

As a specimen of some of the answers which have been elicited by our standing question, or in other words, of the replies which have been made to the inquiry,—What lessons has the past season taught you ? I send you the following sketch of some remarks on underdraining a clay-soil garden which were made by one of our members.

"There is an old proverb," said he, "which, like a good many others of the same class, contains a most important truth in the briefest possible compass, and it runs thus—*seeing is believing*. You will see from the tenor of the remarks I am about to make, that the truth conveyed in this proverb is one which very intimately concerns us farmers. We often hear or read of great improvements having been made in one or other of the several departments of our business, but these reports usually make but a feeble impression compared with what is made when we have some wonder-working implement, or some remarkable animal, or some piece of wet or waste land reclaimed and bearing crops of the largest and best kind—when we have, I say, these or any such things as these brought under our eyes, when we have heard or

read of any such great things, we may not, indeed, discredit or doubt them, but the impression made is so very faint, feeble, and inoperative, that we can scarcely say that we believe them ; but when we come to see them with our own eyes, the impression made is deep and usually strong enough to set us to work to do something about the matter, and we have thus a most convincing proof that "*seeing is believing*" of the most thorough and most useful kind.

"You all know that the soil, all around my residence, and on every side, is clay and nothing but clay. Of course I had to have my garden on hard clay, or not have any garden at all. The man of whom I bought, got along, I have been told, without any garden at all. This neither I nor my family could do, so I set my head and hands both to work to get it into a workable condition. The first year I was in the place I drew on muck until I had a covering nearly all over it about three inches in thickness. This, with some long manure, made the portion so treated a good deal more friable than that which got little or no muck. But after a year or two the soil became so compact, that it was hard work to use the hoe amid the brick-like clods. I next tried sand ; but notwithstanding all such additions to the soil, it remained wet after a rain a long while, and when it dried, it was almost, as I have said, as hard as a brick. Tired of this kind of work, I said something else *must* be done. I then remembered what I had read about underdraining, and as I had abundance of outlet, I resolved to try that. I had, as you know, drains made at the distance of one rod from top to bottom of the slope on which I have my garden, and during last season I had no long

spells of sticky clay after rains; no baking into hard clods, and none of my former troubles whatever. No man could have made me believe that draining could make such a difference; but now I have seen, and therefore I believe. I will now drain my clay-fields too as fast as I can."

AGRICOLA.

COST OF HONEY.

MR. EDITOR:—

Probably but very few bee-keepers know very nearly what their honey costs them, especially if they are engaged in the common interests of horticulture, as fruits and flowers. My reasoning runs thus: If my early spring flowers, such as snow-bells, crocuses, anemones and dielytrias are gnawed and torn to pieces by the rude struggles of honey-bees after the sweets they contain, why may not the equally delicate fructifying organs, the pistils, stamens, &c., of apple, pear, peach, plum, cherry and other fruit-producing blossoms, be disorganized and rendered incapable of producing their legitimate results, causing barrenness of fruit, where abundant crops would otherwise be enjoyed. When pastures and fields are overstocked by cattle they are gnawed down to a corresponding closeness, and so is the floral domain, when overfled by bees. My neighborhood was never before so overstocked with these insects as at the present time. Fruit trees in their bloom are literally alive with them; every blossom has its bee or two, and some have more. Any one who will watch closely the fierce contests of two or more of them in one apple-blossom for instance, and see how they disorganize

the stamens and pistils, and bear away the pollen and the life-blood from the nectary or honey-cup, will not be surprised to see that particular blossom in a few days dry and shrivelled, and falling as an untimely fig to the ground. And this is, more or less, the fate of all the blossoms, unless by good fortune, *bad bee-weather* seasonably intervenes to save a few.

But, again, this *saving*, at this critical period, is only a temporary good, especially for most of the sparse remains of the tender fruits, as peaches, plums, cherries, &c., which survive the early havoc and dangers of infancy, only to be destroyed in riper age. As they approach to ripeness, and become objects of pleasing admiration, and promise of a feast of good things to the rightful owner, they are seized upon, not alone by wasps and hornets, nor yet by those idle, wicked hands for which "*Satan finds some mischief still*," but by the still more sly and insidious honey-bee, by whose poisonous bite it is to be found punctured from stem to stern, and rotting to the core, answering, very satisfactorily, the well-known query of the great and good old poet and philosopher,—

"How doth the little busy bee
Improve each shining hour?" &c.

If any one doubts the abundant facilities of these insects for biting and gnawing into fruit and flowers, they have only to observe their operations in enlarging the entrances to their hives or tree habitations, or the readiness with which they cut their way through the wing covers of flowers which naturally conceal

their honey-cups from them, as the dichytia, &c.

It seems hardly probable that the nectarine so universally furnished in the formation of flowers, has no higher object than that of attracting busy bees, and other insects, to disseminate their pollen to fructify and amalgamate varieties. Is it not far more rational to suppose that the nectarious dew, or life-blood, thus furnished, is also necessary in perpetuating the freshness and vigor of flowers and assisting them to impart vitality and healthy constitutions to the infant fruit, and consequent tone and perfection to its maturity?

Such have been my early prepossessions in favor of this celebrated model of industry—

"Which so skillfully builds her cell,
And neatly spreads the wax!
And labors hard to store it well,
With the sweet food she makes."

That it is with extreme reluctance that I am compelled, from close observation of its depredations for a few years past on my little half acre of fruits and flowers, to believe "*the sweet food she makes*" to be, as Mrs. Partington might say, "a very very *costive* article!"

If my suspicions are wrong on this subject I shall be most heartily glad to be corrected by yourself, Mr. Editor, or any one of your numerous intelligent readers better informed in relation to the true merits of honey-bees than I can possibly be; for it is much more pleasing and life cheering to entertain a favorable opinion rather than an unfavorable one, especially of old favorites.

Yours, truly,

E. SANBORN.

Andover, Mass., Jan. 27, 1859.

In a private letter from a subscriber, the following passage occurs, and as it may serve to direct more attention to the subject, we make free to give it publicity:

MR. EDITOR.—My feelings prompt me very urgently, and almost irresistibly, to say that I think your correspondent M. S., placed the whole body of the practical agriculturists of this country under very great obligations, by the publication, in your January No., of those sound and sensible views in the third article, in regard to the effects of having a sufficient or an insufficient market for farm produce, at home, or not very distant from the place of its production. Your correspondent has shown, in a most convincing way, the effects which have followed, and which may again follow, from the want of a sufficient market for farm produce, consequent upon non-protection of American manufactures, or that very partial or inadequate protection which has fluctuated up and down, from less to more, and from more to less, during the last quarter of a century. If the farming community would lay these considerations to heart, give them their due weight and influence, and act accordingly in their capacity of citizens, they would do more for the *honor* of their calling, and their own *interests*, than any Agricultural Bureau at Washington is likely to do for twenty years, without such prompting from the farmers.

MORE ABOUT MANURING.

A writer for the Germantown Telegraph says:

"To confirm the idea that manure is applied to the best advantage on the top, and that in the fall of the year, an article in the *Country*

Gentleman is quoted. If I correctly apprehend the arguments advanced, manures indiscriminately are to be spread on the surface, and so left till spring, or it may be longer. If this is the doctrine here taught, I must beg leave to differ with your correspondent, as well as the quoted article. Nature is consulted in her process of applying vegetable fertilizers, and taken as a guide. Now if all the manures that the farmer puts on his land are just such as nature does apply—leaves, grasses, &c., destitute of the volatile parts contained in barn-yard manures, guano, &c., I agree that there is not much loss by evaporation at least. But it ought to be remembered that the farmer's manure is artificial, and not natural, and if applied in its undeodorised or undecomposed state, exposed during the winter, it is certainly, to say the least, a very lavish method of application. It is a well-established principle among all scientific and practical farmers, that all fertilizers, rich in ammonia and other volatile matter, should be composted with at least once, or more their own bulk or weight of muck, fine, clean earth, or alluvium, before applied as a top-dressing, and when they are not so composted, they should be plowed in as soon as possible after application."

Remark.—The Telegraph man is right. Such composts as he describes may be used anywhere and everywhere without loss by absorption into the atmosphere, because the composting material, be it muck, coal-dust, turf, leaf-mold, almost anything of the kind, holds what the air otherwise would take; but barn manures, rich in ammonia, cannot be spread for months on the surface without loss. The loss would be greater on some soils than on others, least on tenacious, clayey soils, and not great on peaty soils, but considerable on any soils.

AN OMNIBUS.

Under the caption, *Penny Wise—Pound Foolish*, the *Rural New Yorker*, says:

"But why shall we specify further? Not a department of the farm but can feel the blighting influence of the penny-wise—the soil and its peculiar products, stock, out-houses, and last, though not by any means least, the farmer's own home and family. What shall be said of one who, for the sake of putting a few paltry shillings in his purse, would deprive his household of that wealth which it is not in the power of man to take from them—would add to the burden of cares sustained by the mother of his children, or destroy the budding hopes of those who look up to him as a father? And yet this class is not to be figured up by tens, or even hundreds; would we could say their numbers were more like "angel visits!" When such individuals have put on the "old man" is it strange that they are left to wage life's battle alone?—strange—should you query concerning the sons and daughters who "long ago" made what little sunshine was noticeable around the old homestead,—to learn they "began to put on airs; got a notion they were *too good* to make farmers of," and have long since lost their identity and genuine whole-souled country simplicity, amid the crowded avenues and artificial wants of the city? The remedy for all these evils is apparent, and, while we leave this portion of our subject for the thinkers to digest or extend as they may see fit, we can but hope that our chosen calling—that of tilling the soil—may never be left in the hands of the penny-wise to receive its meed of merit or labor.

Want of space compels the putting over of the second branch of our subject for future reference.

The *Michigan Farmer*, now a weekly of prepossessing appearance, and great value of matter, as we judge from the first numbers, has the following on the *Care of Poultry*:

"It would be well now to make

some preparation for the accommodation of poultry. Many kinds will soon begin to lay, and early fresh eggs will certainly bring the highest price. A close observer says: "Beginners in keeping poultry are prone to suppose that the nest of a setting hen should be made as hot and dry as possible. This is wrong. A hen, if left to herself, seeks a cool, sheltered place, but on the ground, where it is rather damp or moist than dry. But damp in houses where poultry are housed ought to be guarded against." Where poultry are kept in the house, as at the present season, the floor should be of gravel or some substitute, such as the rubbish from an old building, broken bricks, and old mortar. This floor should be spread with fresh straw every morning. That can easily be raked off, and with it all the manure made by the fowls. This tends to keep them healthy by keeping them clean. A flat box that will hold a good quantity of ashes, into which has been thrown a handful of flower of sulphur, should be provided for fowls, whether they are kept in the house or not. This will enable them to keep themselves free from lice. Cleanliness is the great necessity with fowls. They may be fed ever so well, but if not afforded facilities for keeping themselves clean, they will not thrive.

Looking to the paramount importance of the Agricultural interest of our country, it is a matter of surprise how little direct aid or encouragement it has received either from the Federal or State Governments, and how very far behind we are, in this respect, the governments and people of the Old World. We have our schools and colleges, where our youth can be prepared for any one of the learned professions, as they are termed, but where are our schools and colleges, or our text books, to train the young farmer who wishes to make himself acquainted with the scientific relations of his noble profession? France has some five or more col-

leges, and a hundred schools, in which professors are employed to lecture on botany, zoology, chemistry, agriculture, the diseases of cattle, etc. She has, also, some seventy SCHOOL FARMS, and the government expends every year, for veterinary schools, 754,200 francs; for instruction in agriculture, 2,731,468 francs; for encouragement in agriculture, 700,000 francs; for improvement in live-stock, 1,800,000 francs. Belgium has 100 schools established by the government, and the study of agricultural science stands higher in popular favor than all others. Ireland has 63 schools, Bavaria 33, Prussia 32, and Russia has 68 colleges and schools, and an agricultural institution with 40 buildings and 3,000 acres of land attached, attended by several thousand students. The result of these appliances is manifest in the beauty and perfection of their farming system, the abundant yield of the soil, their highly improved breeds of stock, and in all that constitutes taste and success in agricultural pursuits, demonstrating that "knowledge is power," in the hands of the farmer as well as those engaged in other pursuits. The day has gone by for sneering at *scientific* farming. What is science but, in the language of Sir HUMPHREY DAVY, "the refinement of common sense, guided by experience, gradually substituting sound and rational principles for vague popular prejudices?" —*North Carolina Planter.*

The Editor of the *Ohio Cultivator*, in his January number, says:

"In our general department of the *Ohio Cultivator*, we shall freely discuss the merits and demerits of seeds, plants, stocks, machines, etc., having no personal interest in any, that should lead us to give a judgment in favor or against anything before the public, except as they shall deserve on their own merits; as we consider ourselves bound to serve

the public without partiality, and while in that service, keep clear from all speculations that might warp our judgment. We will be obliged to our readers for hints and suggestions on all subjects in our line."

So long as Agricultural editors will "have no personal interest" in seeds, plants, stocks, machines, etc., and will not allow themselves to be warped by the interests of friends, their journals may be reliable.

"The progress made in agriculture during the past few years is in a great measure due to the labor-saving implements which have become an absolute necessity to every thrifty farmer. Occasionally we call to mind the old wooden mold-boards of the plows, the heavy hoes, and still heavier, clumsier axes, the multifarious contrivances for getting corn off the ear; but the new tools fit so exactly into our hands and our present needs are so apparent, that it seems almost as if we never were worse off than we are now. This is natural. The mind naturally looks to the future rather than the past, and experiences except those of momentous character are lost, unless by some artificial means kept fresh in the memory. There is no prospect that the improvement in labor-saving machines will cease. The present may, we think, be regarded as the period of greatest progress, the climax of speed in improvement of all kinds of farm engines and tools."—*Homestead*.

The *North Western Farmer*, published at Dubuque, Iowa, on the subject of Agricultural Education, says:

"The last session of our State Legislature passed an Act incorporating a State Agricultural College. The Act is a very liberal one, and such an institution will do honor to our young State, if properly managed—otherwise, the law had better never

come into existence. We rejoice to see any step taken which has a tendency to promote our agricultural interests, but we as heartily condemn the enactment of any law which is calculated to oppress the people with taxes, for the purpose of feeding a set of half-starved politicians. We hope, however, that the institution thus brought into existence will serve the noble purpose for which the Legislature intended it. The people possess the power, at least indirectly, of placing such men upon the Board of Trustees, as they are willing to trust with the interests of the State; and, should they fail to do so, they will prove recreant to the duty which they owe to themselves and their posterity."

The *Maine Farmer* says, (what can hardly be said too often, and what there is some time yet left in the Northern States for reducing to practice the present winter:)

"It is impossible to keep animals in good condition, unprotected from the cold, especially young and growing ones. It is well known that animals in cold countries require more hearty food than those of warm climates. A certain amount of food being necessary to keep up the natural heat of the system, the greater the cold the more food required, which not being supplied, the animal lives upon itself, or grows poor, much less food being required when the animal is protected from storms and cold. When protected, all food not required to maintain the natural waste of the system goes towards increasing the animal. To obtain perfect form, animals should be kept continually growing until they arrive at maturity. They are often turned out in the spring so poor that it requires half the summer to make them as good as they were the fall before—a loss of three quarters of the year in the growth of the animal."

Some would-be philosopher, in an exchange, philosophises thus:—"The car-

bonic gas arising from manufacturing cities, if of the specific gravity of air, would depopulate London, for instance, in less than four minutes, but, by divine wisdom, it is one-half heavier."

Now, man, its great weight is not the reason why it does not suffocate the people. That is the very reason why it does sometimes suffocate persons, as when it falls into dry wells, or into the vat of a distillery or a brewery. This gas is produced in such quantities in large cities, that it would soon put an end to life, if the Divine wisdom had contrived no better preventive than its weight. Being fifty per cent. heavier than air, it flows away from London, New York, and other cities of the kind, like a torrent, pressing outward in every direction. After suffocating all the people in the city, it would meet in its outward flow, and suffocate all who came near it. There is no telling where the desolation would end. But there is another principle, having no relation to weight, which saves us from the deleterious influence of this and other gases. It is the tendency of fluids to an equal diffusion into each other. Thus, if you put alcohol upon water, though the water is heavier, it will rise and the alcohol will sink, till the two become equally mixed. So, although carbonic acid is once and a half the weight of air, yet, when it is produced in great quantities, it will not remain on the ground, and the air will not float above it. If this were the law, the burning of a lime-kiln would render the region uninhabitable for miles around. There would be an invisible lake of carbonic acid, so deep that none could get their heads above it, to breathe pure air, and the inhabitants of large cities would soon perish. But the heavier carbonic acid

rises to mingle with the lighter air above, and the air above, though lighter, falls to mingle with that, the tendency being all the time to an equal distribution of the two. It is thus that the inhabitants of crowded cities are saved from suffocation, and that the great mass of atmosphere surrounding the globe is kept supplied with carbon, in the form of carbonic acid, for the nourishment of plants. There is no farmer in the Union whose crops will not grow next summer, in part from the exhalations from this metropolis.

The Rule of Non-Producers.—It is good sometimes that an evil should be severely felt in order to insure its eradication. Had the minions of wicked King George not added insult to wrong, our ancestors would have perhaps bequeathed to us the heritage of monarchy. And may we not say that, without the deep and bitter wrongs heaped upon us by non-producers in office, and out of office, it would be impossible to raise such an opposition as to insure the overthrow of their dangerous power?

One day last week, when a bill regulating claims to pre-emptions on the public lands was before the House of Representatives at Washington, Mr. Grow, of Pennsylvania, offered an amendment by which no land was to be hereafter brought into market until ten years after the return of the original surveys. The object of the amendment was to give to the early settlers of our new territories the first choice of land—to prevent speculators from entering large bodies of the public domain, thereby retarding the settlement and development of the country, delaying the construction of roads and bridges, and the establishment of schools and churches.

Teaching.—Schools and Colleges are asked for to teach farmers how to manage their lands. Who are to be the tutors? They are seldom taken from

that class of farmers who have learned to live by their occupation and are thorough bred. Hence we see all attempts to farm by the *square rule* proving abortive.

In the great State of New York there was a high fever a few years ago, to build up Colleges and High Schools in order to teach all farmers—and particularly those of New York, how to manage their farmers by scientific rules.

Remarks:—We quite agree with the veteran editor of the *Ploughman* in some of his views. He does not believe that farmers are to work at the dictation of learned professors, who know little or nothing, practically, about farming. Nor do we. Nor do we suppose any one endowed with a modicum of common sense does. "The great State of New York" does not propose that Colleges and High Schools "shall teach all farmers," nor any farmers "how to manage their farms," but to give to young men the best possible means for acquiring such *useful* knowledge as will enable them by and by to manage their own farms, in the very best manner.

The Progress of Thirty Years.—In general systems of tillage, improvement has been very great. Thirty years ago, rotation of crops—known then by thinking men to be as important as every one confesses it now—was not *practiced*—we might almost say that it was unheard of by the majority of cultivators of the soil. Now there are few who have any pretensions, at all as farmers, who will not be ready to tell you of a certain regular course of cropping they have decided on, for a part of all their fields. Thirty years ago, how many were there who made it a settled plan to manure their farms, in comparison with the number who have now at least grasped that first obvious fact that a barn should not be placed over a stream for convenience of

the removal of its deposits, and that, now and then, the soil *does* require a little refreshment beyond the rains and dews of heaven and the thin stubble of the last harvest? And are there not some at this day in almost every neighborhood, who go much farther than this; who systematically stock their farms to enrich them, and judiciously economize the numerous supplies of animal and vegetable matter which nature is constantly offering for the same purpose.—*Country Gent.*

THE Baldwin apple has probably been known for about one hundred years, but originally under the name of "Woodpecker," which was abbreviated to the "Pecker" apple. The apple was brought into notice by Col. Baldwin, and received his name.—*New England Farmer.*

Fruit Growing.—We advance it as an axiom, a self-evident proposition, that in California, fruit growing will always be a profitable business, and worthy the attention of the agriculturist. In the Atlantic States, where for the last twenty-five years, particular attention has been given to the production of the choicest fruits, the demand is now better than at any previous time. Good fruits are always saleable in all countries, and the demand increasing; and as it is just as easy to raise a good variety as poor, our orchardists and fruit growers should give the subject of the quality of their fruits, the first attention.

We have a larger non-agricultural producing class, than any other State in the Union for the number of its population, and always will have; this fact alone gives to the fruit grower an assurance of an excellent market at home. The demand for commercial purposes is largely on the increase, and to which hardly a limit can be assigned.—*California Culturist.*

Statistics, &c.—During the last

fiscal year, ending June 30, 1858, there were imported into this country nearly \$100,000 worth of *potatoes*. Most of these were what are known in eastern cities as *Bermudas*. They are similar to our *Western Red*, but being raised in the warm climate of the British West Indies, are ripe about the time we plant, and find a ready sale here, as *new potatoes*. The Secretary of the Treasury, however, reports importations amounting to \$7,000, from Ireland, and \$2,000 from England. Last fall we saw a statement in the Boston papers that 20,000 bushels of potatoes had been received at that port in one week, from New Brunswick. These facts would seem to show that growing potatoes is a good business for those who are within reach of the eastern markets. The *Blue Mercer* has long been the favorite with wholesale buyers, and sells for the highest price, but unfortunately it is not productive. For a year or two growers have been testing the *English Fluke*, and it is a good potato, and yields well. We have been told that it is not a favorite East, but with the experience of only a few trials, we think we know of none much better—excepting always that little gem, the *Mexican*, which every farmer, who is fond of good living, should raise for his own use, and for a few customers who are willing to pay for them. The *Peach Blow* is getting to be a great favorite East.—*Rural New Yorker*.

FARMERS' CLUB.

At a meeting of the Farmers' Club at Freeport, on the subject of the reduction of wages, Mr. Rosenstiel said, "he was the last man to favor any plan which would work an injustice to the laborer, in any way whatever. He was placed on the affirmative of this question, without his consent, and he would not have accepted it had he been present. It is true that there is a want of equality in the profits of the farmer and

the mechanic, and the hired laborer. Wages are disproportionate. But in his opinion the true way to remedy it, is to create a home demand for farm produce, by the establishment of manufactures among us, and let the price of labor regulate itself. By making proper regulations in this way, the present injustice can be done away with. There is no doubt at all that the farmers' noses are being held to the grindstone, both through combinations on the part of mechanics and laborers, and on that of the Legislature. He referred particularly to the action of Congress on the wool duties, and said that the farmers should vote only for farmers for their law makers, so that their interests shall be protected."

A GOOD CALF.

ALBERT PHILLIPS, of Willow Glen, says, in the *Dryden News* of Jan. 13, "I slaughtered, on the 6th inst., a calf 15 months and 9 days old, which weighed, in the aggregate, 859 lbs., as follows :

Hind quarters, 349 lbs., at 8	
cts. per lb.,	\$27 92
Fore quarters, 349 lbs., at 7	
cts. per lb.,	25 20
Hide, 100 lbs., at 6d. per lb.,	6 25
Rough Tallow, 50 lbs., at 9	
cts. per lb.,	4 50
Total, 850 lbs.,	\$63 87

I sold at the above rates, and consider it low for the quality. His live weight would be (by a safe rule) 1,400 pounds. If any man can do better in this town, county or state, please call and take my *best hat*.

The secret of my success has been in having the kind of stock that will feed well, and take on fat, and in supplying it with food of the right kinds, and in a proper manner."

POULTRY.

An English writer has summed up the whole art of Poultry Breeding in the following five rules :

1. Pure breed ; 2. A constant infusion of fresh blood, and the careful avoidance of in-and-in breeding ; 3. A varied diet ; 4. Equable temperature ; and, 5. Strict cleanliness.

Whether these rules embrace all that a poulterer needs to know, is perhaps doubtful. They are good as far as they go, and easily followed.

It is now a time in the year when the poultry requires special attention. Those who live in snowy regions, should see to it that their fowls have access to the ground. Their mode of grinding their food is a little as if you should put corn and gravel-stones into a barrel churn, and turn it till the corn should be reduced to meal ; or more, as if you should put the corn and gravel into a bag, and then add some water and press the bag alternately on one side and the other, and in every part till the corn should be reduced to a pulp, and pass out, leaving the gravel behind. Hens accordingly must be supplied with gravel.

The shells are composed mostly of carbonate of lime, are the same substance, chemically considered, as marble, chalk, or common lime-stone. This substance exists in corn, oats and other food for hens, but not in sufficient quantity to supply them in laying time. The next best form in which it can be furnished to hens, is in the shells of their own eggs. The presumption is that the oftener any mineral substance has been in any form, the more easily it again assumes that form. This is one of these things which it would not be easy to prove, and yet is probably true ; as for

instance that phosphate of lime, that was last year in a clover plant, and this year in the bone of an ox, will more readily go that round again than phosphate of lime which is now first separated from the mountain rock ; and that carbonate of lime, which was last week in the hen's food, and to-day in the shell of her egg, will more readily assume the condition of another egg shell, than carbonate of lime now for the first time let loose from old lime stone. But be all this as it may, the very fact that hens will eat pounded chalk, broken shells, and other forms of carbonate of lime, shows that they should be supplied with this compound, in greater proportions than it exists in their food. Their own instincts decide when they want it and how much, just as the instincts of cattle will lead them to take precisely as much salt as is good for them, provided it is always within their reach, whereas if mixed with their food, as in over-salted hay, they may take an injurious amount. As we would have salt always accessible to cattle, so we would have carbonate of lime, in the form of egg shells, chalk, and marble dust, always within the reach of hens.

With regard to the feeding of hens, we believe that three times a day, about as much as they will eat, but never more, is decidedly better than food always before them. If fed a satisfactory meal, three times, about as much as they care to eat at once, they will pick for themselves between meals, which is more consonant with their nature than to be continually pampered. It leads them to travel away from their ordinary gathering places ; is to some ex-

tent a saving of food ; gives them exercise; exempts them from disease; makes them better scavengers, and leads them to destroy more insects. Perhaps one reason why insects are a favorite food for birds of all sorts, and especially for hens, is that the lime in the insect frame furnishes material for the shells of their eggs. The hen is a carnivorous fowl. Bits of meat should be supplied when insects cannot be had.

As regards the different kinds of hens, we are in doubt whether any are better than our old, short-legged, thick-breasted, quiet, contented, and very amiable barn-yard fowls. But as we do not profess to be quite up with the times in this matter, although it is really one of considerable magnitude, especially when the Shanghaes, with big bodies on the top of two poles, are the subject, we give from the "*Barn Yard*" of the Messrs. Fowler & Wells, the following illustrations of five varieties, with the leading characteristics of each. We may give illustrations of other varieties hereafter.

1. *The Spanish Fowl*.—The thorough-bred Spanish fowl is entirely black, so far as feathers are concerned, with a greenish metallic luster. The combs of both the male and the female are very large and of a brilliant scarlet ; that of the hen droops over on one side. There are few, if any, handsomer fowls than the *genuine* Spanish. The hens are great layers ; their eggs are very large, quite white, of a peculiar shape, thick at both ends, and tapering off a little at each.

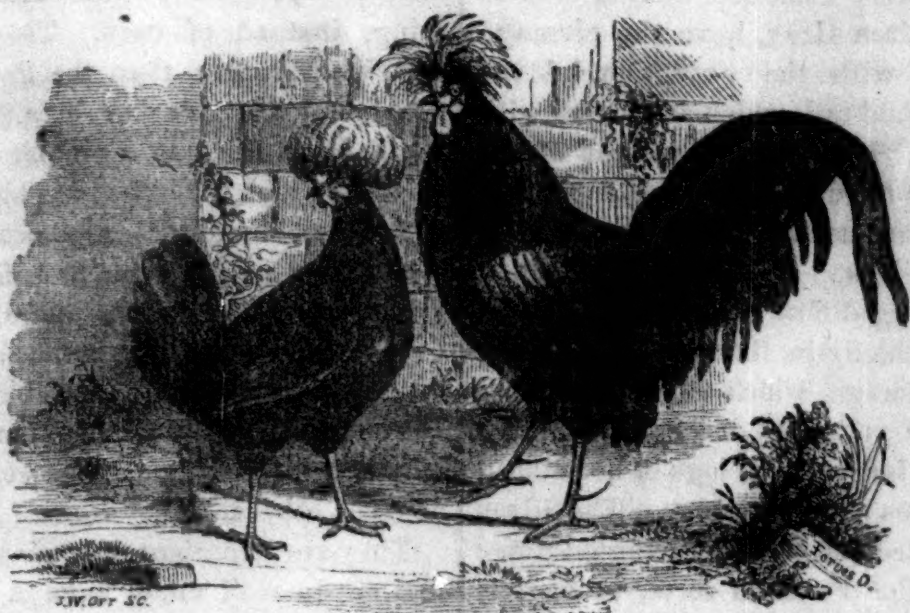


THE DOMINIQUE COCK.

2. *The Dominique Fowl*.—This is a very common breed in this country, but none the less valuable or beautiful on that account—profitable fowls, being hardy, good layers, careful nurses, and affording excellent eggs, and the quality of their flesh highly esteemed. The hens are not large, but plump and full breasted. The eggs average about two ounces each, and are of porcelain whiteness.



THE SPANISH FOWL.

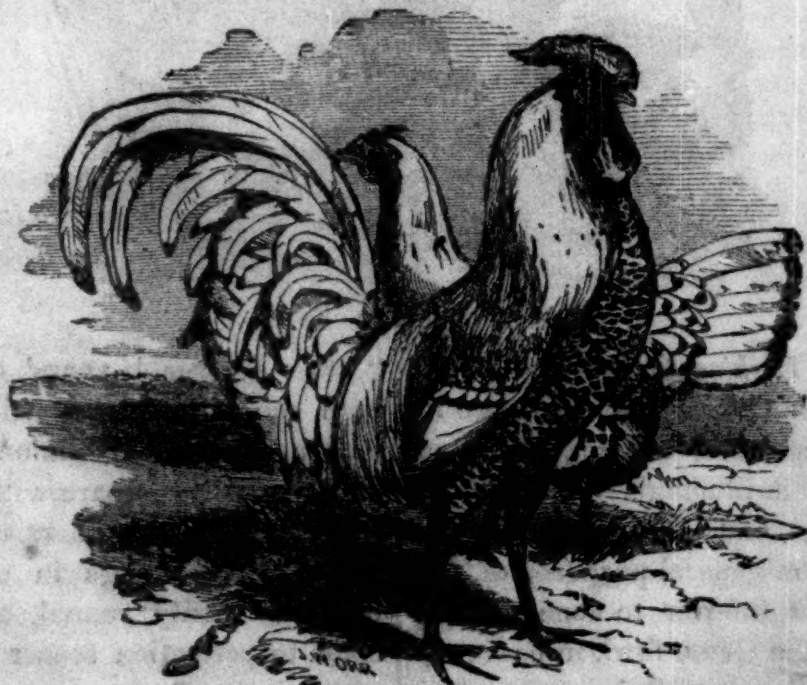


THE POLISH FOWL.

3. *The Polish Fowl*.—The origin of this family of fowls is entirely unknown. They do not exist in Poland at the present time, and there is no evidence that they were ever known there ; but this is a matter of small moment. Their beauty and excellence are undisputed. The large top-

knot is one of the principal characteristics of the Polish fowl, and is conspicuous in all its varieties.

The varieties of the Polish or Poland fowl are numerous ; but the principal ones are the White-Crested Black, the Golden Spangled, and the Silver Spangled.



THE SILVER SPANGLED HAMBURG FOWL.

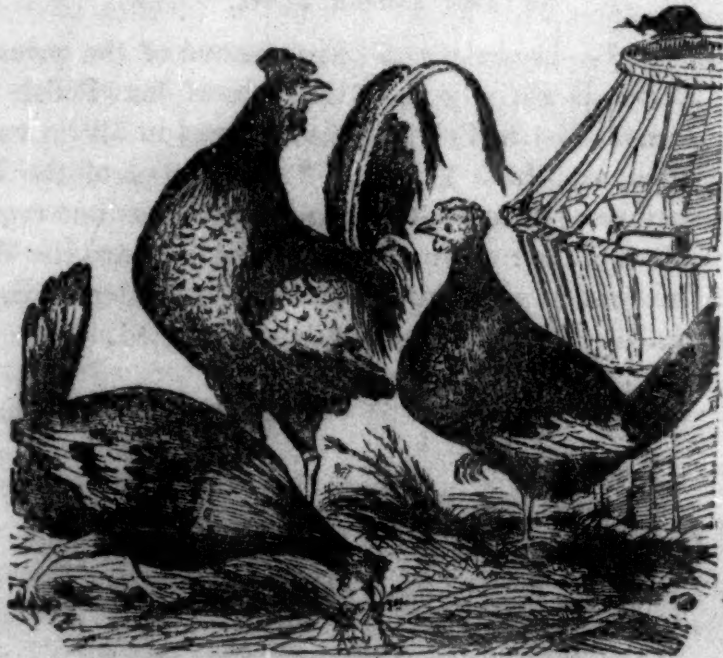
4. *The Hamburg Fowl*.—Of the Hamburgs there are several varieties.

The Silver Penciled, known also as the Bolton Gray, have the plumage white, with the exception of the wings and tail, which are furred with black. The average weight of the cock is about four and a half pounds. The hen usually weighs about a pound less. The Golden Penciled Hamburg differs from the Silver Penciled chiefly in the ground color of its plumage, which is a yellowish buff or yellowish bay, and in being rather larger. The legs of both these varieties should be blue. The Silver Spangled and Golden Spangled differ from the Penciled sorts, in having black, circular, oval, or crescent-

shaped spangles on the tail and wing, instead of bars. They are somewhat larger than the Penciled birds and have darker legs. The Black Hamburg has a plumage of a uniformly rich, glossy-green black.

All the Hamburgs are beautiful fowls, rich in plumage and fine in form; great layers (the eggs, however, are small); seldom desire to sit; and are good for the table, falling but little below the best varieties in this respect, although not so large as some others.

They are impatient of confinement, and to do well must have a wide range of grassy lawn or pasture.



THE DORKING FOWL.

5. *The Dorking Fowl*.—The Dorking is a fowl of rare beauty, large in size, symmetrical in form, and often gorgeous in plumage. Its flesh is white, firm, and of excellent flavor; and for the general purposes of the table it is inferior to none, except, perhaps, the Game fowl, in flavor.

John Giles, a well known poultry breeder, gives the following opinion :

"After forty-odd years' experience with the gallinaceous tribes, I say that, in my humble opinion, no breed of fowls will compare with the true Dorking as good mothers, sitters, and layers, giving eggs in abundance, chickens easily reared, and which come to perfection sooner than any other poultry."

CHEMISTRY OF AGRICULTURE.

In pursuance of this subject the consideration of soda naturally comes next.

Sodium, a substance kindred, in many respects, to potassum, is a yellowish white metal, is lighter than water, floats when put upon it, and takes fire, provided the water be slightly warm, but is not, like potassum, ignited by contact with cold water or ice.

As the source of potassum is the earth, whence it is drawn by growing plants, and obtained from these by incineration and leaching the ashes, so the source of sodium is the sea, whence it is drawn by sea plants, and then obtained, as potassium is from land plants, by burning and then leaching the ashes.

Neither are seen in their pure metallic state, except by the chemist in his laboratory. Sodium combined with oxygen in the proportion of 23 to 8 forms soda. This is a very acrid, caustic substance, somewhat resembling caustic potash. If combined with chlorine, in the proportion of 23 to 36, it forms common salt. To persons unacquainted with chemistry, it would seem very surprising that so innocent a condiment as salt is composed of two substances, both of which, by themselves, are deadly poisons. Yet, such is the fact.

Soda combined with carbonic acid, 31 of the former to 22 of the latter forms carbonate of soda (washing soda); combined with a double portion of carbonic acid, 31 of soda to 44 of the acid, it forms Bicarbonate, or, as sometimes called, Supercarbonate of Soda (cooking soda). When combined with sulphuric acid, it forms sulphate of soda (Glauber's Salts). With nitric acid it forms nitrate of soda (saltpetre).

The only forms in which soda, as far as we are aware, is used agriculturally, are those of

Chloride of sodium—*Common salt* ;
Sulphate of soda—*Glauber's salts* ;
Nitrate of soda—*Saltpetre* ;
Carbonate of soda—*Washing soda* ;

Of these, as used for agricultural purposes, we propose to speak in a future number.

FARM FERTILIZERS.

From a valuable article in the *Democratic Age*, we copy the following :

"Some of the losses that arise from improper exposure are as follows :

"The most soluble elements, and consequently the most readily available constituents to plants, are washed out by rains.

"If the manures permeate the farmyard, a larger amount of surface is exposed to evaporation than if gathered to a heap.

"The amount of surface exposed to evaporation is a great number of times increased if cattle are permitted to roam promiscuously through the yard. Every step taken by an animal, exposes a new surface to the action of sun and air. Every spear of hay or straw projecting from the surface of manure, by capillary attraction, gives an increased amount of surface for evaporation.

"The proper composting of fertilizers, is to American farmers of more importance than to the English cultivators of the soil, because gases from any decomposing substance, whether animal or vegetable, cannot so readily pass into a humid atmosphere, like that of England, Ireland, or Scotland, as they will into a clear atmosphere like that of America.

"Any vegetable matter that can be decomposed in a compost, should not be burned. It is, therefore, not proper to subject witch or couch grass, small branches of trees, clippings of hedgings, or live fences, leaves or other similar materials to the action of fire. They ought rather to find their way to compost heaps, and receive such treatment as will secure full decomposition. Let everything of a manurial character find its way to the compost. Remember the Scotch adage : 'A stone is the only mote in a muck heap.'"

OUR NATIVE GRAPES.

We publish the following from the descriptive catalogue of C. W. Grant, Esq., Iona, near Peekskill, West Chester County, New York, believing that it contains information with regard to the native grapes of our country, and their cultivation, which our readers will notice. What a pity that any farmstead should be without a few grapevines, early, medium and late. We are glad to be assured by a grape cultivator that no complication of sprouts is required. Anybody can sow grapes, that will heed what is said in the last sections of this brief article :

"Until recently, from our own hardy native production, we have not been able to realize the aptness and force of those living illustrations in the word of light and life, where the vine is used to give a notion of something more joyous and good than language has yet been rich enough to symbolize. Vines of spontaneous growth are abundant throughout the whole Indian-corn growing region of our country. We have varieties innumerable, many of them so characteristically different, that by botanists they have been considered distinct species, producing fruit which ripens at all periods, from the middle of August to the first of November, and of every hue from amber green (or 'white') to intense black. But north of Mason & Dixon's line none of them have given fruit of such excellence as to excite any sympathy with those outbursts of gladness which Pagans and Christians in the vine-growing regions of Europe have always manifested at the approach of the grape season.

At the South, especially in Carolina and Georgia, some very excellent varieties are grown to considerable extent, of which the Herbemont may be taken as a type. This variety had received but little notice until more fully introduced by Mr. N. Herbemont, I believe about the year 1825 who was a zealous

pioneer in wine-making. The 'Original Herbemont, Madeira,' is still growing at Columbus, South Carolina.

The origin of the Isabella is also claimed for South Carolina, although no trace of it is now found growing wild. Its introduction marks a long stride in American grape-growing. Wherever it has become established, northern seedlings have, per force of great inferiority, at once disappeared from cultivation, and multitudes, whose tastes were not too nice, have found enjoyment in well-ripened Isabella Grapes—some even consider the pungency and aroma of its skin an excellence, while others characterize it as *offensive foxiness*.

About twenty years later the introduction of the Catawba by Major Adlum furnished a grape of much higher character than Isabella, but not able to ripen so far north by nearly a degree of latitude. Both for table and wine, it was a decided step onward. The Isabella grape was first known in the garden of Miss Isabella Gibbs, on Brooklyn Heights. It is supposed by many to have been a native of New York State. Two of our excellent native have been brought out by women, Mrs. Diana Crehore, of Massachusetts, and Mrs. E. M. Peake, of New York. Why should not this fact encourage the ladies to show their hand at the business of propagating seedlings? Still something better was desired and earnestly looked for; and twenty years later the announcement of a '*hardy early grape, better than Isabella and Catawba*,' was received with expectant pleasure, and placed the name of Mrs. Diana Crehore, Mass., among those who will be gratefully remembered.

Two years later the 'Delaware, a small grape of surpassing beauty and exceeding excellence of flavor,' was with most quiet modesty introduced by Mr. A. Thomson, of Delaware, Ohio, and many hindrances were placed in its way, so that it is not yet perhaps universally known as *The American Grape*. Its

character for beauty and excellence has not deteriorated, but it is not now small.

Two years since, the Rebecca, originated by Mrs. E. M. Peake, and introduced by Mr. Brocksbank, of Hudson, New York, added another to our list of valuable varieties of exceeding beauty and excellence; some even preferring its luscious sweetness to the rich wine of the Delaware. To Mrs. Peake as well as to Mr. Brocksbank we are specially indebted for preserving and introducing a fruit that is destined to perform so distinguished a part in American pomology.

Of the Anna, I have spoken all that I would say, elsewhere, except that I consider it worthy to stand among the six indispensable varieties; and I would further remark that our six best are not inferior to the six best table grapes of France, when we shall grow them with the same skill and care as is there bestowed upon them. We have yet, as a people, much to learn of the importance of the grape, and of the facility with which they may be kept quite through winter, so that they may, without extraordinary means, be had in good condition for the table from the ripening of the Delaware, which takes place as early as the 1st of September to the 1st of March; so that here as in France it must become the fruit of first consideration, as it is already first in excellence of flavor, and *easily* first in promotion of healthfulness.

In the vicinity of Paris grapes for the table are so extensively grown, and so highly prized, that their cultivation is, *par eminence*, styled 'THE GRAND CULTURE;' and that estimation is held in a country where pears are more abundantly produced and of better quality than any other known. The ancient Celtic name, which means 'best of trees,' expresses the estimation in which it was held by that people; and the name in Greek, Latin, and Spanish, is not less expressive of worth. Of its character with them we know almost nothing; until after having undergone the improvement of ages it had reached

perfection, so far as varieties are concerned; but the 'stock' or constitution of each variety consequent upon the care and skill which it has long received, is regarded as of the utmost importance when a new vineyard is to be planted; for the *immediate produce* from plants well propagated from vines in the best condition is greatly superior to that from vines that have, from deficiency of skill or care, not acquired so great a degree of excellence either in vigor of habit or quality of fruit. Careful observation has shown the great advantage of following this course, and laws analogous to those observed by successful breeders of cattle are not less operative in the vegetable kingdom.

One of the evils to which new and desirable varieties of plants of all kinds are subjected is excessive propagation, either by taking as many layers as the vine can be made to produce, or by using *all* of the wood that can be made to grow, in which cases the vines will always be imperfect or worthless; and consequently the reputation of the variety damaged or destroyed. Of this, the Diana has been a marked example, and those who have experienced its feeble growth, unproductiveness, and small bunches from the dwarfed specimens first sent out, behold with incredulous surprise the exceedingly vigorous growth, which is but its normal development, and such magnificent bunches of fruit as have, this season, been eagerly taken by purchasers from the side of Black Hamburgs at the same price, but with a decided preference for the Diana.

One of our best new varieties is now languishing in reputation in consequence of subjection to this very evil; and the *Delaware* has suffered from it most of all. But the inherent vital energy peculiar to that variety enables it best of all to overcome the injury when again placed in favorable circumstances, if the damage has not been so severe as utterly to destroy its constitution.

All of the wants of the vine are very easily supplied, and no intricate complication of "specials" is required or advantageous; and the care of it is not

irksome to those who lovingly regard it, and make of it a companion through the season. Its rewards are most generous. The place of reception should be fully exposed to the sun at least half of the day, and better if all—not overshadowed by trees, or subjected to the drip of water from them. A rich pervious soil—such as would yield one hundred bushels of corn to the acre, but made three times as deep, (that is to say, two feet and a half or three feet deep,) with no place for water to lodge at the bottom. About half the depth named will answer very well for a few years, but the vine before it is able to give its best mature results will begin to fail. After shallow planting, profuse manuring is injurious, and there should be no joint occupancy of the ground by weeds or vegetables.

Although the wants of the vine are few, simple, and easily supplied, yet they are *imperative*, and, as with all other fruits of our climate, it is only to judicious care that it *can* yield its richest delight."

SMALL FRUITS.

BY F. S. FULLER, BROOKLYN, L. I.

THE cultivation of the smaller varieties of fruits, has received much attention in this country in the past few years, and where good varieties were planted and good cultivation given the results have been highly remunerative.

Although large quantities have been produced, the market has not been fully supplied, and we doubt if it will be for many years to come.

The more we have of a really good thing the more we want, and it is this *growing* taste which has called into use the hermetically sealed can for the preservation of fruits. Not only small but the larger fruits are thus preserved, and instead of having a certain variety for a few days only we are enabled to prolong the season to suit our own convenience. A few years since, only what was wanted

for immediate use could be disposed of, and if by chance a few extra bushels were sent to market—the dealer would hardly look at them, much more think of buying; but, now the public are learning the importance of having fresh ripe fruit in winter as a promoter of health as well as a luxury. They are not satisfied with having fruit in its season, but they must have it out of season and in all seasons; the consequences are that all kinds of fruit bring a good price, we may say an exorbitant one.

What has caused this great change in the price; is it because there is less produced now than formerly? Certainly not, for now we have currants, blackberries, raspberries, strawberries, and grapes cultivated, not by half acres but by the hundred acres, and we can safely say that there is ten acres of the small fruits grown now where there was one ten years ago.

The immense quantities preserved for home use and for exportation, and the increasing demand for our grape and currant wines, has had much to do in advancing the price of those fruits, but we think there is one cause which has done more to create a demand than any of those named, and that is the great improvement in size, beauty, and quality of all our small fruits. For people will buy twice the quantity of a handsome delicious fruit that they will of one of a medium quality.

The beautiful appearance has attracted the attention of the public, and when the eye has once been delighted, and the palate tickled by a dish of fine fruit, the temptation is too great for an ordinary mortal to withstand, unless he be a miser with more gold than brains. Some old fogies will *pretend* to believe

that our so-called improvements are just no improvements at all, but merely the fancies of our sickly imagination; let us indulge a little in retrospect and see what we shall see:—

THE GRAPE.

The Isabella and Catawba Grape were brought to notice some forty years ago, but our fruit-growers at that time so firmly believed that there was no hardy native grapes worth cultivating, that they would not take plants of these fine varieties as a gift. William Prince, of Flushing, L. I., was the first to propagate the Isabella, and as soon as he had a sufficient quantity on hand he offered to distribute them gratis. Yet, very few availed themselves of this very liberal offer.

For the next fifteen years very few thought of planting native varieties, and as foreign varieties would not ripen their fruit in the open air, they contented themselves with the old fox grape or none at all.

The few who planted the Isabella and Catawba were so well pleased, that they induced others to plant also, and those that had one vine soon wanted ten more, and from that time to the present we have been planting until now we have thousands of acres in cultivation of these varieties.

Although we have thought much of these two varieties, others have come forward that will eventually supercede them. There are so many competitors in the field, it will be hard to decide which will win the race, Diana, Concord, Rebecca, Delaware, Anna, and a host of others, all possessing great merit.

With such grapes as the Delaware and Rebecca, it is no wonder that our pomologists have become excited and

are running half crazy through every old hedge and garden in the country to see if there is any more like them. One of our pomologists has cried *Eureka* over his last new grape, and thus named it.

STRAWBERRIES.

At the time Mr. Hovey brought out his wonderful Seedling Strawberry, we had but very few good native varieties; most of them were too small to attract attention. We had European varieties by the dozens, but they were the same as they are at the present time, comparatively worthless when brought side by side with our best native sorts. The growing of Hovey's Seedling gave the public such a surprise that it set everybody to raising Seedlings, and now that once famous berry is far in the background.

New and superior Seedlings have come forward in such abundance, that the man who would attempt to decide which was *the best* strawberry in cultivation, would be thought a fit subject for the Lunatic Asylum.

CURRANTS.

Where is the old common Red and White currant of twenty years ago in comparison with our Cherry, La Versailles, White Provence, White Imperial of to-day; we can see to gather these by starlight, the old ones we could hardly see by daylight.

RASPBERRIES.

The improvement in raspberries has been equally as great, and now we have something better than the small weavely things formerly sold in our markets. We can now luxuriate on Brinkle's Orange Franconia, Tarteliff, and if we wish to prolong the season we can call in the Catawissa, and have a fine dish of raspberries in very face of the advance guard of old winter.

BLACKBERRIES.

The cultivation of the Lawton Blackberry was certainly the opening of a new era in fruit culture. Who thought of cultivating the blackberry for profit before? surely no one; but now there are acres planted of this superb fruit; and, not only the people of this country acknowledge its merits, but the fruit-growers of Europe extol it highly. The Dorchester and several other varieties, deserve the attention of all the lovers of this fine fruit.

THE GOOSEBERRY.

In cultivating this fruit we have had many difficulties to overcome. The fine varieties of England being in most cases unsuited to our dry, hot climate, producing rust upon the plants, and mildew upon the fruit before it ripened.

But with our new native Seedlings we can defy the mildew, and if we cannot boast of as great size, we can show fruit, which for flavor and productiveness, cannot be surpassed by any foreign variety.

With every improvement there comes an increase in the demand, and as this fact has been verified in past years, we may confidently expect to see it continued in years to come. Thousands of acres of uncultivated land in the vicinity of our large cities, which now yields no income to the owners, could by a very small outlay of capital, be made to yield millions of bushels of the smaller fruits.

Every farmer living in the vicinity of a city or village where a market could be found for the surplus, should have a half acre or more of the small fruits, which, after furnishing his family, would bring him two or three hundred dollars per year, without his perceiving the time spent in their cultivation.

FARMERS, PROTECT YOURSELVES.

I am going to suggest to farmers, orchardists, etc., the propriety of adopting some measures that will be a kind of insurance to their property against the depredations of idle boys, for it is a notorious fact that a great many residents in the country, with large families of boys grown up, are very far from providing a supply of the desirable fruits, vegetables, etc., for them at home, so they seek it in their neighbors' orchards, melon-patches, etc.; and brethren, these things ought not so to be.

Now what I was about to propose was, the forming of associations in each township—a compact of all the respectable citizens that go in for a reformation for the purpose of putting this petty robbery and juvenile training for the State Prison down—the object of the association to be to prosecute according to the rigor of the law, all boys found guilty and detected in any such depredation; and to make it the duty of the members individually to be on the watch for such cases about their neighbors' property (of the association only), for it is often the case that A is from home, and B sees something done illegally. Now all B has to do in the case, is to make sure who the boys are and report them to the association, and they will receive the reward of their deeds. And again, if A is at home the boys may come upon the blind side, and perchance B or C or D, or some one else, may see, so it will be extremely dangerous for them to undertake their pilfering tricks about the neighborhood.

1st. Mo. 1859.

BELMONT.

SUGGESTION.—Dear Friend, we can fully sympathize with thee and all others who suffer by the depredations of wicked boys. But this plan will only awaken the Devil within them, and when once aroused, they would go through fire and water to accomplish their mischief. We have been a boy, and know just what boys are made of. Let us propose a better plan: Form the associations, and instead of flourishing the

blade of justice, persuade the fruitless and melonless and beeless neighbors, to plant and raise for themselves, and thus by a common partnership of interest and sympathy, let every man and boy become a law to themselves. This will be better than spring guns and watch dogs.

—Ed.—*Ohio Cultivator*.

Remarks.—The editor of the *Ohio Cultivator* is about right. We know a town in which there is an association of fruit-growers, and there is very little stealing there. Fruit may hang over the street fence and be safe, but we suspect it is because everybody there cultivates fruit, and so all feel a common interest preserving it. It should be so everywhere. Boys should have fruit, but should not steal it.

GARDEN-WORK FOR FEBRUARY.

At this season of the year there is but little to be done in the way of vegetable-gardening. But what can be done is important and should be promptly attended to. Preparations should now be made for *early* vegetables. If your manure—leaves, tan, or whatever you intend to use for hot-beds,—has not been properly prepared, by being frequently turned over, it should now be done. Hot-beds are usually made with fresh horse-stable manure, after being placed in heaps for a few weeks and turned over occasionally to prevent excessive heat. It should then be laid up in beds two to four feet deep, the size corresponding to the frames to be used for covering; but in all cases it should be a few inches larger than the frames. The manure should be evenly and firmly pressed together, leaving no loose spots, for in that case an even degree of moisture and heat would not be obtained.

If the manure has become dry by its fermentation in the heaps, it should have a good soaking of water as soon

as it is placed in the beds, which will assist its fermentation again.

Place the frames on the beds, and fill in five or six inches deep with good fine soil, and as soon as a sufficient degree of heat is obtained sow your seeds.

Cover the beds with straw or mats at night and remove them every pleasant day.

Hot-beds for early vegetables should be ready for seeds this month. Radishes, Tomatoes, Lettuce, Egg-plant, and whatever other early vegetables are desired should now be sown.

Cabbage-plants intended for an early crop are generally raised in the fall and heeled in some dry frame or cellar ready for spring use. If this has been neglected, seed may now be sown in the frames.

If a few strong plants of rhubarb are planted in the frames, they will be ready to cut several weeks sooner than from the open ground. Radishes can be sown around the plants at the time of planting, and they will be large enough to pull before the leaves of the rhubarb are large enough to shade them.

Early varieties of turnips may also be sown in the hot-beds at this time.

All the vegetable seeds to be used this season should now be purchased, (if not raised at home, which is the best way), and tested by placing a few in some pots or boxes in the hot-beds. By so doing, you can determine whether they are good or not, also what proportion will grow, which will be of importance to know at the time of sowing.

If you buy seed of which only twenty-five per cent. will grow, it is very important that you should know this before sowing; for if you should sow, expecting seventy-five per cent., and you only get twenty-five, there would be two-thirds of a crop lost. On the other

hand, if you sow, expecting only twenty-five, and you get seventy-five, you must then thin out and throw away two-thirds, to give the remaining third a chance to grow.

Look to your beds of spinach as the snow melts away. See that it does not commence rotting by being pressed too close by the covering. If the leaves are turning yellow, it needs more air, and this should be given it by gently lifting the covering with a fork the first pleasant day.

Get poles ready for Lima beans. Try all the old ones, and see if they are strong enough for another season. If not replace with new ones. Put off no work until next month that can be done this. The work of February should never be done in March.

Hardy grapes should now be pruned, if not already done. Save cuttings and put away in cellar on heel in out-doors, and cover deep enough to keep out frost. Currants, quinces, and gopseberry cuttings should not be neglected. Cut grafts of all fruit trees which you wish to use in the spring. If you have a choice new grape and wish to get a large vine soon save some grafts to put on some less rare variety. Most of the ornamental shrubs can be grown from cuttings if taken off now. Prairie, Ayrshire, Evergreen, and many other varieties of roses strike readily from cuttings if cut early. Try it.

COTTON-SEED MEAL.

The Editor of the *Homestead* (Hartford, Conn.) says :

"We know of the extensive use of this article in this vicinity, and moreover know that they who use it once are the best customers of those who have it for sale. So we are told by the merchants, and of the fact we

have no doubt, as we have it corroborated by the farmers and milkmen themselves. Its use in moderate quantities is considered most beneficial, and we know of no class of stock who may not have it fed to them advantageously. We know of no accurately conducted experiments."

SYMONDSBURY HARVEST-HOME.

Men of sinew ! hale and hearty !
Brave at scythe and sickle come !
Come and swell our gleesome party !
Reapers ! sturdy reapers, come !
Time for all things, this for leisure :
Time for all things, this for pleasure !
Sing our merry Harvest-Home.

Mothers meek ! home troubles leaving,
Join your husband's joy, and come :
Honor, love, respect receiving,
From the honest hearted come !
Nought unmeet for woman's hearing,
Nought unmeet for woman's hearing
Blots our merry Harvest-Home.

Maidens modest ! fear no roughness ;
Fathers, brothers are we : come !
Kind and true, despite our bluntness :
Maidens modest, come, then, come !
Far awny be thoughts of lightness ;
With our own unsullied brightness,
Maidens, bless our Harvest-Home.

Aged folks ! our hamlet's glory,
Dames and grandsires ! all must come ;
Come and tell again the story
Of the days long bygone ; come !
Ye who with life's ills have striven,
And to whom now rest is given,
Welcome to our Harvest-Home !

Laughing children ! lend your rattle
To our merry-making ; come !
Good to hear is childhood's prattle :
Children ! merry children, come !
Ye have work'd as hard as others,
Gleaning proud beside your mothers—
Ye must share our Harvest Home.

High and low ! with one another,
Young and old ! come join 'us, come !
Each to each, in God, a brother,
To our village High-Day come !
Well it is that harvest labors
Richly crown'd, should bind all neighbors.
In a thankful Harvest-Home.

Farmers Magazine, London.

NEAR BROWNSVILLE, SHAWNEE }
Co., K.T., Jan. 13., 1859. }

Editor American Farmer's Magazine :

It is evening ; and here, in our snug little log cabin, I have drawn a writing table towards the fire, and now, seated in my arm-chair, with my feet resting comfortably on the hearth of our *Shanghai*—not a *Shanghai chicken*, of

course, but a regular mammoth No 9 Shanghai cooking stove, to us an indispensable piece of furniture, I commence an epistle for the edification, not of yourself—for editors are supposed to be all-wise—but for that of many of your readers who know but little of Kansas and Kansas life.

On the opposite side of the stove sits my liege lord, who just now softly insinuated that my capacity for writing nonsense for flashy newspapers, *might be greater than for getting off* anything suitable for so sensible and practical a work as the *American Farmer's Magazine*. Now isn't this discouraging? These lords of creation are so provoking! But I suspect *he* is very nearly right after all. However, there is one thing certain, and that is—we women, when we begin to say anything will have *our say* out, whether any one will listen, or not; and it is a fact, that I would finish this letter if I knew it would go under the editor's table in a twinkling after it arrived at his sanctum.

Winter in a log-cabin on the prairies! How horrible! our Eastern friends exclaim, and perhaps in pity heave a sigh for us, as in imagination, they picture the fierce, rude blasts, sweeping in wild, unbroken fury, across the bare and desolate prairies, and whistling in the crevices of our rude habitations. But spare your pity awhile, my friends. I fear you deserve ours, more than we yours, at least if we may judge what the present winter is with you, by the twenty-long, bleak, dreary ones we have passed among our native hills in Northern Pennsylvania. Aye! reserve your sympathy for us, until the coming of July—broiling, sweltering July, when we are lolling almost breathlessly in the

coolest nooks we can find. Then, perchance we'll sigh for your cool shady groves, your murmuring, crystal brooks and dashing water-falls. But not now do we look toward sunrise with a longing eye. O! the air here is so soft and warm now, and the sun shines so brightly, it seems like Autumn or the pleasant Spring-time, more than like mid-winter.

While you "*Oriental*s" scarce dare venture out, without being wrapped from top to toe, in extra garments, we go forth—the men, minus coat and often vest, and the women with no extra covering, save a *sun-bonnet*. During the first week of December we had cold blustering weather, and about six inches of snow fell. But it was not long, ere it became warm, so much so that vegetation started in the woods and ravines, flies and musketoes were dancing in the air, and the voice of the robin was to be heard in the thickets. This continued until about a week ago, when we had two days of disagreeably and uncomfortably cold weather which arrested the growth of vegetation, and sent flies, musquitoes, and red-breasts to their retreat. To-day, it was so warm and pleasant, that with my sewing, I sat for a long time in the open doorway, basking in the genial sunshine. But the robins have not returned yet, and perhaps will not until February, when the woods will probably be filled with their cheery voices. They are seldom if ever seen here in the summer time, but come in large flocks in the winter, when the weather is unusually warm. They appear and disappear quite suddenly; but whence they come, or whither they go, we are unable to determine.

I think that most of the birds of this country are not so melodious as the

the birds of the East. The meadow-lark is not less musical here than elsewhere, and I think our blackbirds can vie with those of any other region. There are five different varieties of these—if the cow-bird may with propriety be considered one of them. The cow-bird is the most numerous; next is the jetty blackbird, then comes the golden header, which is of a much larger size than either of the others named. There are a few of the red-headed and a very few of the green-headed varieties. Very early in the spring they meet promiscuously in immense flocks, and such a twittering and chattering as they make, none excepting those who have heard the like, can imagine. At a little distance their *music* is very agreeable, but on a near approach, one is almost distracted by the discordant din. These birds, so much complained of by the farmers of the East, are, I think, not troublesome here, except during planting time, when they pick up the kernels of corn, if they are not covered as soon as dropped. Ravens and crows (the latter are the most numerous) are quite a pest to our farmers. They not only pull up the young corn-plants in the spring, but destroy much of the growing grain. They commence their depredations while the corn is quite green, and continue until it is gathered. The stalks are so stout that they readily find a footing upon them, and when there, it takes but a short time for them to open the ears and pick off half of the kernels, leaving the remainder to rot. Prairie chickens also destroy a good deal of corn, particularly when it is cut and shocked up, as is done by a few who wish to preserve the stalks for fodder.

For the benefit of those who have never seen a prairie chicken, I will here

state, that it resembles the quail in general appearance and habits, but is four or five times larger. They are the most abundant game we have in this vicinity. Quails are scarce. One little flock of fifteen, comes regularly twice a day to our door to pick up the crumbs. They seem to have no fears of us, but are nearly as tame as our chickens.

Game in this part of Kansas is not so abundant as might be supposed. Deer are seldom seen here. If we chance to spy now and then a flying antler, we are quite sure to see from one to half a dozen Red men in the rear. In fact, the Indians have either almost annihilated these animals, or driven them to wilder retreats. Wild turkeys have mostly shared the same fate, there being only now and then one seen. Rabbits are plentiful, but they are of a small variety; they do not turn white in the winter like those of the East. There is said to be a species of rabbit on the plains, one hundred miles west from here, which is very large. Their ears measures four or five inches in length. We are within about one hundred miles of the buffalo grounds, and many of our citizens go out in the fall to hunt. They always return successful, their wagons being filled with the flesh of the buffalo. This is generally considered fully equal to other beef. It is excellent for soup, but rather dry for steaks and roasts.

I suppose there are thousands of buffalo hides left upon the plains, to be devoured by the wolves which infest those wastes, as they are so heavy to transport, that the hunters let them remain where the animal falls. It is a wonder that some enterprising, money-loving Yankee does not set up a *tannery* in the vicinity of the buffalo

grounds. The only *machinery* required for such an operation, would be a goodly number of females of the Kaw tribe, who so easily convert the raw hides into the soft pliable buffalo robes, we used to consider so indispensable, when sleigh-riding.

There are many prairie wolves here which appear to be fond of our chickens. Those living near the timber find them very troublesome. Wild cats also infest our poultry yards; but there are only a few of these animals—husband caught a pair of half-grown ones last summer, and we tried very hard to *domesticate* them; but after training them for six weeks, we gave up in despair, for they were *wild* cats still, and we came to the conclusion that time *might* be spent more profitable than in attempting to *civilize* such *ungrateful* little wretches.

We have no foxes in this country. There are a few coons, the Indians keeping their ranks very thin. The same may be said of the squirrel, of which we have the fox, the grey, and the black varieties; also the ground squirrel or chipmuck. By the way, do you consider the black and the grey squirrel as belonging to the same variety.

The Kansas *rat* is a very pretty, active, and sagacious little animal, quite unlike the ugly, pugnacious black rat of the East and the rest of creation generally. He is not so slender as the last named species, is of a reddish brown color, with a white belly, and has a short tail. Like the squirrel he dwells in the timber, making his home in hollow logs or under fallen trees, and laying up in Autumn large stores of nuts and acorns for his winter use. He is a great gormandizer, and sometimes falls short of provisions before the winter is

over. In such a case woe to the luckless individual whose home is not far removed from that of his ratship, particularly when the ground is covered with snow and he finds it difficult to get food in the woods. When he finds ingress into a dwelling and is not disturbed, he sets about rummaging everything that is *comatable* and carrying off all that is not too heavy, whether it is an eatable or not. If his place of egress is not sufficiently large, he secretes his booty somewhere on the premises, and in the course of one night will accumulate quite a miscellaneous heap. His depredations are generally committed in the night. A gentleman of this Territory related to me an anecdote quite characteristic of these rats. He said that when he first settled here he and his wife were much disturbed for several nights by a very noisy visitor, which seemed to have a great deal of business about their cupboard and stove. On lighting a candle the noise would cease and nothing of the intruder was to be seen. But not a moment would elapse after the light was extinguished before the *racket* would commence again. In the morning, on going to make a fire, he would find the chips and kindlings all piled up, in fine order, in the stove oven, and beneath them a pile of knives and forks, which had been dropped from the cupboard and dragged into the oven. One of these little fellows once carried off and hid, in one night, 1½ bushels of ears of pop-corn, which had been left by us in a vacant cabin near the timber.

The greatest enemy of the farmers of this country is the pouched gopher. This little inhabitant of the *lower regions*, though he works all silently and unseen, makes his presence known wherever he goes. He loves to frequent gardens,

where he soon forms subterraneous passages in all directions, and destroys vast quantities of roots and vegetables. The last season our garden was nearly tunneled by these pests, and we daily watched the disappearance of our roots and vegetables without being able to destroy the perpetrators of so much mischief. Can you tell us how to rid ourselves of these creatures? We have read of suffocating them in their retreats with the fumes of burning rosin and sulphur, but we think that would be impracticable here, on plowed ground, as the soil is so very light and porous that the gas would not penetrate the holes far before it would all escape through the loose soil. I do not think they are so troublesome all over the Territory as here.

It is getting late and I must close. If this is acceptable I will write again, and in my next will tell you about our farms and farm products, gardens, etc.

E. C. D. C.

Remark.—An entire avoidance of Kansas politics! None but a woman could have done that.

Let us hear something of the farmers, farming, and farm products. We want to know all about it.

Who will tell for our next how to destroy the gophers?

An Eloquent Extract.

Agriculture and the life and employment of a farmer have never lacked their enlogists. The members of all other active business callings, seem to look upon it as a pursuit rich in varied charms and ample rewards, and often picture to themselves a farmer's life, as free from the thousand cares that vex them now, and sigh for the time when they may retire from the anxieties of law, merchandise, medicine or politics, to enjoy the quiet elysium of a farm of

their own, in some pleasant rural neighborhood.

Another class—men who have had one sort of experience in the matter—look with very different opinions upon the pursuit of agriculture. We find the case well put by a cotemporary journal. "Look at that man," says one, "he has toiled, toiled through long days and weary years, and what has he made? Something to be sure—but what he has got has been gained more by *saving* than by *making*. He has denied himself the fruit of his own labor. He has stinted himself and his family, and scarce allowed them the bare necessities of life, and for what? Why to get a few paltry dollars together, that had he been engaged in any other business, he might have obtained with half the toil. Thus says the opposer of agriculture as an occupation, and he backs his assertion not by one case alone, but by scores."

Others take another, a far more reasonable, and certainly a more encouraging view of the subject. They believe that agriculture underlies all other avocations of men, as their basis and substratum, and "like the primal rock, whose giant ribs and bones sustain the waters and their fleets—the fertile ground and its array of verdure—the lordly tree and modest flower—man and his mansions—so agriculture sustains all other employments, and provides the foundation, too often forgotten, on which they are erected. It is the fuel that feeds them all—it gives motive power to the great locomotive of human achievement." With this high idea of its importance, they do not content themselves to follow the old routine, whether successful or unsuccessful—they do not toil on satisfied that no improvements can be made—no more profitable course pursued—no waste prevented—no neglected crop, product, or fertilizer be turned to valuable account, but they apply all their energies, mental as well as physical, to the development of the resources of their farms, and the

means at command around them. These men do not come to you with the tale of all work and no profit on their lips. These men not only save but *make* money, and they do it fairly and honestly, without stooping to the shifts and paltry meanness that too often disgrace other avocations.

How, then, stands the true state of the case? Is farming so pleasant as a pursuit, honorable as a profession, and profitable in result, or the contrary? We believe that, like other pursuits, there are certain requisites to success which may not be foregone. Enterprise, intelligence, capital, and industry, are necessary to this as to all other professions and pursuits.

Agriculture calls for the highest efforts of scientific industry. In its true sense it is an encyclopædia in itself—requiring great knowledge, fine powers of observation, high mental cultivation, assiduous thought and study, and opening its arms to ingenuity and invention.

What is now needed is the increase and diffusion of agricultural information, and its thorough practical application. For this we need agricultural schools and colleges, connected with experimental farms, in every State in the Union. We need thorough farmers who would exemplify the best modes of culture and management, and show by their farms, their stock, their crops, and their success, the most direct way of making a living—and a good one—by tilling the soil.

SHEEP IN TEXAS.

Wool-growing is steadily increasing in Texas, and the State will soon number its flocks by hundreds of thousands. The San Antonio *Herald* says that Captain Sweet, late of Laporte, Indiana, has just returned from Mexico, whither he went last fall to purchase sheep. Capt. Sweet went with others, and the whole number of sheep brought out was about 4,000. His portion, about 1,000 head,

he has placed on a rancho on the head of Curry's creek, Blanco county. The Captain is delighted with Texas, and is sanguine of the exceeding profitability of the sheep business. The *Ledger* says that the wool-growers about San Antonio are bringing their wool into market, and mentions several lots. At San Antonio this wool brings from fifteen to thirty-five cents per pound, according to cleanliness and quality. That paper says, for the benefit of wool-growers, "Tie each fleece in a separate bundle by itself and take pains to wash the fleece well before shearing. Clean wool brings from thirty to forty cents more than dirty."

GRANDPA'S LETTER TO BOYS.

LETTER FOURTH—BAD COMPANY.

I hope, my young friends, that you have resolved on pursuing a proper course of conduct and doing your duty under all circumstances.

I think I intimated in my last letter that you might expect to meet with many difficulties and temptations in your onward course of virtuous conduct. The path of the young is thickly set with snares, and briars, and thorns, and without the utmost vigilance they will be entangled and led astray from the right path. Let me mention some of the dangers that surround you, in order that you may avoid them.

The first of these is *bad company*. Let me assure you that nothing is more dangerous to the young than wicked associates. This has been the ruin of thousands. There is something contagious in vice, and it is almost impossible to be where it is practised without becoming contaminated with it in some degree. We ought never to allow ourselves to become familiar with vice in any of its forms. If we do it will soon begin to lose its frightful appearance,

the conscience will become less sensitive, and before long, that which at first seemed so hateful, will appear lovely and pleasant. I hope then, my dear young friends, that you will never allow yourselves to become familiar with vice of any sort; but shun even the appearance of evil. Avoid bad company as the worst of evils. It will lead you to ruin. However agreeable boys may be in other respects, yet if they are addicted to any bad habits—if they curse and swear—if they lie, cheat, or steal—if they drink or gamble—if they loiter away their time and spend it in idleness, shun them as you would a mad dog; for they will seek your destruction. If you will go to the State Prison and ask the convicts what it was that first led them astray, perhaps nine out of ten will tell you that it was bad company.

Young persons generally have not fortitude or resolution enough to resist the influences of bad company. They are easily led astray, and for this very reason they should the more carefully avoid it. I once knew a very lovely boy who bade fair for usefulness. He was the joy of his parents, and regarded by all who knew him as a remarkably promising youth. He was sent to school a distance from home, where he could not enjoy the benefit of parental instruction. His parents thought he was proof against temptation, and too well established in morals to be led astray. It so happened that there were some bad boys in the school, and they were his class-mates. For a while he resisted all their attempts to lead him astray. But seeing and hearing their wickedness he became familiar with it. Sin became less hateful in its appearance, and gradually he was induced to listen to their persuasions, and even to become a par-

ticipator in their wicked ways. He neglected his studies—was frequently absent from school—frequented tippling shops and gambling tables, left school, became a profligate, and died a drunkard.

This is a very lamentable instance of the pernicious influence of bad company, and no doubt there are hundreds of such instances in the world, and they should serve as a warning to all boys who have resolved on a proper course of conduct.

I would earnestly entreat you then, my dear boys, as you regard your usefulness and happiness, both in time and eternity, never associate with bad companions, nor yield to their persuasions. It would be an evidence of great weakness to do so. Although you are boys, show yourselves to be men in strength of mind. Prove yourselves to be beyond the power of temptation and superior to the devices of the wicked.

One great fault in boys is, that very often they have not fortitude or resolution enough to refuse the solicitations of their companions. They are afraid of giving offence, or of being laughed at, or of being considered weak and childish. But the truth is, it is a much better evidence of strength of mind to resist a temptation than to yield to it. And as for being laughed at, let them laugh—it is better to bear this than to run the risk of losing your good name and your prospect of usefulness in the world. Care not for the respect and good-will of such persons as would lead you to ruin. Learn now while you are young, to say *No*. There is great power in this little monosyllable, and by uttering it when necessary it may be the means of saving you from ruin. Never be afraid or ashamed to do what is right. Sin is the only thing that you should be afraid or ashamed of. If you

should lose the respect of the wicked, by not yielding to their wishes, all good people will love you the more. But the truth is, even the wicked in the end will have a greater respect for you than if you had suffered yourselves to listen to their temptations. The world, bad as it is, has a respect for virtue, although some may not acknowledge it.

Until you hear from me again think of these things, and resolve never to associate with bad boys. Treat them with politeness, but never make them your companions. Yours truly,

GRANDPA.

A QUESTION.

If we ask the children what they burn for lighting, one will say *tallow*, another *oil*, another *camphene*, and another *gas*. The truth is that all burn gas; and the main difference is, that in some cases it is manufactured for them, and sent to the house in iron pipes; while in others they manufacture it for themselves, in such ways that it burns and gives light as fast as made.

If tallow, for instance, is heated to a certain degree it turns to gas and then burns. It is pretty much so with oil, lard, pine knots, any thing used for the purpose. These things are first turned to gas and then burned, and whatever the gas is made from, it is pretty much the same substance as the gas used in cities and larger towns. If you would put tallow into a retort and heat it, with the exclusion of air, it would be converted to gas, and might be sent round the city for lighting, and the only objection to it would be that it would be too expensive. But if you heat a small portion of it at a time, in the open air, and contrive to have another portion heating while that is burning, and

so on, you then have a domestic gas manufactory, to make gas and to burn it as fast as you make it. This is done by putting tallow, beeswax, or spermacetti around a wick, or by saturating the wick with oil, and then setting the wick on fire.

It is not the tallow, or other material of the candle, that burns, but the gas made from it. The children can prove this by a very simple experiment, one that they can perform for themselves. Extinguish a burning candle. A stream, smoke and gas, will rise from the half-extinguished wick. Touch that, at a distance of two or three inches, with the blaze of another candle, you will see it will take fire, and the fire will follow the stream back to the extinguished candle and relight it.

There is another little experiment, making water boil with ice, which will amuse the children, and will instruct them, if some one will explain the reason. Fill an old oil flask, or any glass bottle that is not worth much, (for you may break it,) half full of boiling water and cork it tightly. Let it stand on the table till cooled considerably below the boiling point. Then apply to the outside snow, ice, or very cold water, and it will boil hummily. The application of heat would not make it boil; the application of ice or cold water will; can any of the children tell why?

NEW YORK CATTLE MARKET.

BEEF CATTLE.			
First quality, per cwt.....	\$10 00	@	\$11 00
Ordinary.....	9 00	@	9 50
Common.....	7 50	@	8 50
Inferior.....	6 00	@	7 00
COWS AND CALVES.			
First quality, each.....	\$55 00	@	\$70 00
Ordinary.....	40 00	@	50 00
Common.....	30 00	@	35 00
Inferior.....	20 00	@	25 00
VEAL CALVES.			
Extra quality, per lb.....	6 1/4	@	80
Other qualities, do.....	4	@	5 1/2
SHEEP AND LAMBS.			
First quality, per head.....	\$5 50	@	\$8 00
Other qualities.....	3 50	@	6 00
FOR SWINE.			
First quality.....	\$6 50	@	\$7 50
Other qualities.....	6 00	@	6 25

BOOK NOTICES, ETC.

ANATHAN DAYS' ENTERTAINMENTS—Translated from the German. By Herbert Pelham Curtis. Boston: Phillips, Sampson & Co., 13 Winter street, 1858.

The immense popularity which the Days' Entertainments have attained in Germany is shown by examination to have been well deserved. A few of the stories have before appeared in this country, but the present is believed to be the only complete translation yet made. We judge the work to be free of all immoral tendencies and highly entertaining. It contains 434 pages, with a considerable number of comic and other illustrations, and is executed in fine style. For sale by Sheldon, Blakeman & Co., No. 1 Nassau st., New York.

THE PERSIAN HOUSE: A Memoir of Judith Grant Perkins, of Oroomiah, Persia. "The flower faded," Isaiah xl., 7. Boston: John P. Jewett & Co. Cleveland, Ohio: Henry P. B. Jewett. 204 pages, 18mo. For sale by Sheldon, Blakeman & Co., New York.

This is a book that may be safely commended as one that all Christian parents would not only like to see in their children's hands, but to read themselves. The subject of the narrative was the daughter of Rev. C. Perkins, Missionary to the Nestorians. Much of the history of that mission, and of the interesting people in Northern Persia, their customs, modes of life, religious faith, etc., etc., is inwrought in the narrative, making it in a measure historical and exceedingly interesting.

STRUGGLES OF THE EARLY CHRISTIANS, FROM THE DAYS OF OUR SAVIOUR TO THE REIGN OF CONSTANTINE, with an Introduction by Rev. F. D. Huntington, D.D. Boston: John P. Jewett & Co. 147 pages, 18mo. For sale by Sheldon, Blakeman & Co., New York.

This work details an exceedingly interesting and important portion of Christian history. Dr. Huntington's connection with it as writer of the introduction is a sufficient guaranty that it is a work of no ordinary merit.

TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY FOR THE YEAR 1858.

These Transactions constitute a rich pamphlet of 140 pages, and afford a large amount of reliable information on the culture of apples, pears, peaches, plums, grapes, etc., etc.; embracing all the fruits adapted to that soil and climate, with much that is valuable and interesting with regard to varieties, modes of cultivation, landscape gardening, and whatever enhances the pleasures and the profits of country life.

THE GARDENERS' MONTHLY AND HORTICULTURAL ADVERTISER. Philadelphia: Thomas Meehan, Editor.

The second number of this work fulfills so far the expectations created by the first. It contains 16 pages, double quarto, (we believe this is the term), very large at any rate, and well filled. Price \$1 00 a year.

THE WORKING FARMER. Edited and published by Prof. J. J. Mapes, at 143 Fulton st., New York, monthly.

For the practical farmer, as well as for the fruit grower, the gardener, and the florist, but more especially for the practical, working farmer, we consider this at least equal to any publication of the kind that comes to our table. We assure our readers that we have no earthly interest for saying this, other than our wish to promulgate whatever we believe to be true and to have an important bearing on the improvement of agriculture. Interest might seem to require us to speak otherwise, as that journal is a rival of ours, so far as there can be rivalry in so good a cause. It is true we have offered, and do still, to furnish the *Working Farmer* with the *Farmer's Magazine* for \$2 advanced to this office; but that is only an arrangement between the publishers, by which subscribers, who choose, can obtain both, by one order to either office, instead of one to each.

OBERLIN STUDENT'S MONTHLY.

This is a religious, political, and literary journal, conducted by the professors and students—the latter mainly, we believe—of the college whose name it bears. It is a work of grave literary cast, and meritorious in this respect to the young men of that institution.

AMERICAN VETERINARY JOURNAL, devoted to the Diffusion of Veterinary Science. Geo. H. Dodd, V. S., Editor and Publisher, Boston. Monthly, in a neat pamphlet form, 32 pages. \$1 a year, in advance.

The object and tendency of this journal is to overthrow quackery and to introduce more rational and far more humane modes of treatment for all classes of domestic animals, when diseased or in any way unsound.

THE HOUSE: A Pocket Manual of Rural Architecture, or How to Build Country Houses and Out-Buildings. New York: Fowler & Wells, Publishers, 308 Broadway. 1859.

This work is illustrated with numerous engravings, and abounds in practical suggestions for the construction of farm buildings, with reference to location, materials, style, convenience, comfort, and economy. A perusal of it will enable any one to save much in the construction of farm buildings, and still to have them more convenient, more desirable, and of better appearance, than if constructed without consulting some good authority. The work contains 176 pages, 12mo., is neatly executed, and sold for 50 cents.

STATISTICS OF AMERICAN AGRICULTURE. Mr. Jay's Address before the American Geographical and Statistical Society.

This Address was delivered before the Agricultural section of the above Society on the evening of March 25, 1858. It goes to show, by an actual ciphering out of the figures, that Agriculture is not only the great interest, but the all-sustaining interest, of the nation, of our nation peculiarly, that as it flourishes all other interests wax greater, but wain as it declines. Some of Mr. Jay's statistics we propose to lay before our readers in future numbers. Facts are stubborn things, and we do well to consider them attentively.

LANDRETH'S RURAL REGISTER AND ALMANAC FOR 1859.

Besides the ordinary matters of an Almanac this pamphlet of 58 pages contains a great deal of valuable instruction for the growing of farm, garden, green-house, and other productions.

PRIZE ESSAY ON THE PREPARATION AND APPLICATION OF MANURES. By Joseph Reynolds, M.D., of Concord, Mass.

We find among our subscribers a great many physicians. There is a reason for this class of men possessing a very intelligent interest in the subject of Agriculture. Their studies are of a kind that would naturally lead them to a correct theory of Agriculture, and their opportunities for observation on the procedures of others are great. Doctors ought to be good farmers, whenever they turn their attention to practical farming, and we believe they generally are. Dr. Reynolds' Essay abounds in sound principles and valuable suggestions, and is an honor to the writer and the society which awarded the prize.

MERRY'S MUSEUM AND WOODWORTH'S CABINET.

This old and true friend of the children is still published at 116 Nassau street. It is just what the children want and ought to have.

LIFE ILLUSTRATED: A Weekly, by Fowler & Wells, 308 Broadway, New York.

Shut against the known will of the Creator, violations of the laws of nature, ignorance of ourselves, a false chase after happiness where it cannot be found, neglect to seek it where it is—in right doing and kindly acts—the worship of position and the intenser worship of self have always constituted a part of *Life* and we fear always will. Nevertheless, the Messrs. Fowler & Wells, in their *Life Illustrated*, are doing something, we believe much, to open people's eyes and to lead mankind to live more according to the dictates of common sense, sound philosophy, and the divine teachings, whether in nature or revelation.

To CONTRIBUTORS.—Several articles, which we regard as of great value, have been crowded out of this number. Unfortunately some of them have had to lie over before. They shall appear soon.